Stroke

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Stroke

Stroke is the number five cause of death and a steady leading cause of disabilities in the United States (Mendelson & Prabhakaran, 2021). As a nation, we have made many advances in education, but that has not prevented more than 795,000 people in the United States from having a stroke each year (CDC, 2022). A stroke is an immediate impairment of blood circulation to the brain influencing your neurological function also classified as a brain infarct, cerebrovascular accident, or brain attack ("Stroke," 2022). When categorizing strokes, they can be put into two separate groups, ischemic or hemorrhagic; the difference between these two is how the brain is cut off from blood supply. An ischemic stroke is a blood clot totally or partially blocking blood flow to a part of the brain causing the brain to swell and injure ("Stroke," 2022). These blood clots commonly travel to the brain after forming in other parts of the body including the heart and blood vessels, resulting in 87% of all strokes (CDC, 2022; "Stroke," 2022). TIA is a transient ischemic attack including swift neurological deficits caused by a decrease in oxygenation to the brain without causing any death to the tissue and healing on its own (Mendelson & Prabhakaran, 2021). Hemorrhagic strokes account for the other 13% of strokes causing bleeding into the brain tissue from the surrounding blood vessels creating swelling, compression, and spasms in the adjacent blood vessels in the cranial cavity ("Stroke," 2022). The brain is roughly three pounds in size and full of power just like a car. When there is an accident damage can either be irreversible or regained. Included here are the copious modifiable risk factors, treatments, educational teachings, and the importance of being fast when caring for stroke clients. The brain is the control center of the body helping humans communicate, move, and process emotions, and with the damage that stroke can cause, every part of someone's life is to be affected.

Statement of the Problem

A stroke is a disruption in blood flow to the brain and without properly educating the community about stroke risk factors, people can be left with serious neurological deficits such as weakness and long-term sensory impairment. For the brain to function optimally, blood flow must be preserved at 750 to 1000 mL/min for the highest quality. When the flow is altered, neurological metabolism is altered in 30 seconds, metabolism halts in 2 minutes, and cell death takes place in 5 minutes (Bussard, 2020). In the United States every 40 seconds someone has a stroke and within 3.5 minutes someone dies from a stroke (CDC, 2022). If a stroke is not identified quickly, people not only lose valuable brain function, but their quality of life can change. Strokes cause injury to the brain known as a neuro deficit; meaning abnormal function of the body area. Strokes are unpredictable and can attack at any moment whether at home, grocery shopping, at gatherings, or in the hospital. In the hospital, clients receive twenty-four-hour care but that does not mean they cannot be affected by stroke causing complications. One of many complications of stroke includes dysphagia which is the inability or difficulty swallowing. A client experiencing dysphagia poses a risk for aspiration which can affect the nursing community significantly. A client can choke, develop a chest infection, experience anxiety, and delay discharges with longer hospital stays (Boaden et al., 2021). These outcomes affect the nursing community immensely because nurses are not only caring for the clients but preparing the families to care for their loved ones as well. Effective education and therapeutic communication are what make the nurse’s role imperative in stroke transitions out of the hospital (Camicia et al., 2021). The nursing community provides resources and teaching to educate the community about signs and symptoms of strokes as well as care for stroke clients. If left uneducated, communities at large, may miss a sign or symptom that could save a life.

Risk Reduction/Treatment of the Problem

BEFAST is an acronym that helps people to remember the signs of a stroke. The B stands for balance, someone experiencing symptoms of a stroke may have trouble ambulating or standing upright. Letter E represents changes in eyes and vision and F identifies unevenness in the face. The letter A represents a weakness in the arm another hallmark sign of brain infarction whereas S represents when the speech can be garbled or unclear. Lastly, T means time to call 911, the quicker the treatment, the less likelihood of long-term effects (Caplan, 2023). When experiencing or witnessing a cerebrovascular accident, time is crucial for survival and saving brain function. Educating using this acronym is tremendously beneficial in recognizing obvious signs of a stroke. A non-contrast computerized tomography (CT) scan is the quickest, most cost-effective, and easiest accessible diagnostic study in determining whether the stroke was ischemic or hemorrhagic (Mendelson & Prabhakaran, 2021). Once the health care providers discover the type of stroke, they must quickly establish the best way to treat the stroke in order to save brain function and restore adequate oxygenation to the brain. Treating an ischemic stroke with medications can include antithrombotic therapy using aspirin within forty-eight hours after the onset of acute ischemic stroke to prevent the patient from developing blood clots (“Stroke,” 2022). Mannitol a diuretic can also be used for hemorrhagic and ischemic strokes to reduce intracranial pressure (“Stroke,” 2022). A more invasive procedure could include stereotactic radiosurgery requiring high doses of radiation that are beamed towards the arteriovenous malformation causing the damaging and closure of blood vessel walls to prevent bleeding (“Stroke,” 2022). When preventing strokes there are modifiable risk factors that limit your chances of encountering a brain attack. One modifiable risk factor to aid in the prevention of strokes is stopping smoking. Cigarettes contain harmful chemicals that damage blood vessels

leading to heart disease, atherosclerosis, and hypertension (“Stroke,” 2022). Other risk factors that can be managed and controlled are obesity, cholesterol, and diabetes. In the year 2020 1 in 6 deaths from cardiovascular disease was due to a stroke (CDC, 2022). Implementing positive lifestyle changes could prevent heart disease and the chances of stroke from escalating by eating healthy, exercising regularly, and cessation of smoking.

Planning of Teaching Content

When a stroke is occurring the most important thing for community members to understand is timing. If someone sounds or looks off use the acronym BEFAST and call for help immediately. Another significant factor for community members to understand is that you can recover from having a stroke and with the right resources and medical management you can improve, regain, and live life as you once did. Education on stroke is imperative to ensure community members are aware of all their modifiable risk factors and work on healthy goals for improving their lifestyles. While attending the community health fair, citizens of Lewes can expect to see the stroke table where a trifold poster board will include facts and statistics on stroke, and students available to answer all questions using layman’s terms. Students at Margaret H. Rollins School of Nursing will also be handing out cards with the BEFAST acronym on them which will educate citizens about the signs and symptoms of a stroke.

Conclusion

Overall, strokes continue to be the number five leading cause of death in the United States and a leading cause of disabilities which is a concern across the nation. The longer the brain is deprived of oxygen or damaged by a brain bleed, tissue is dying and it is imperative to act fast because time is tissue. Therefore, it is important to spread awareness and educate on the

clinical manifestations of a stroke using the BEFAST acronym. All classifications of stroke can cause a

decline in neurological function due to a decrease in oxygen which can cause long-term effects. Fortunately, prevention and treatment of stroke are possible through medical and surgical management. By keeping an eye on your health and continuing to instill healthy lifestyle choices, strokes can be prevented with the help of all community members in and outside the hospital.

References

Boaden, E., Burnell, J., Hives, L., Dey, P., Clegg, A., Lyons, M. W., Lightbody, E. C., Hurley, M. A., Roddam, H., McInnes, E., Alexandrov, A., & Watkins, C. L. (2021). Screening for aspiration risk associated with dysphagia in acute stroke. *Cochrane Database of Systemic Reviews*, *2021*, https://doi.org/10.1002/14651858.CD012679.pub2

Bussard, M. (2020). Stroke. In M. M. Harding, J. Kwong, D. Roberts, D. Hagler, & C. Reinisch (Eds.), *Lewis's medical-surgical nursing: Assessment and management of clinical problems* (11th ed., pp. 1330-1351). Elsevier.

Camicia, M., Lutz, B., Summers, D., Klassman, L., & Vaughn, S. (2021). Nursing's role in successful stroke care transitions across the continuum: From acute care into the community. *Stroke*, 52(12), e794-e805. https://doi.org/10.1161/STROKEAHA.121.033938

Caplan, L. R. (2023). Patient education: Stroke symptoms and diagnosis (Beyond the basics). *UpToDate*. Retrieved March 29, 2023, from Patient education: Stroke symptoms and diagnosis (Beyond the Basics) - UpToDate

Center for Disease Control and Prevention. (2022, October 14). *Stroke facts*. U.S. Department of Health and Human Services. https://www.cdc.gov/stroke/facts.htm

Mendelson, S.J., & Prabhakaran, S. (2021). Diagnosis and management of transient ischemic attack and acute ischemic stroke. *JAMA*, 325(11), 1088-1098. https://doi.org/10.1001/jama.2020.26867

Stroke. (2022). Lippincott advisor. https://advisor.lww.com/Ina/document.do?bid=31&did=1120009&searchTerm=ischemic stroke&hits=stroke,strokes,ischemic