Stroke prevention

Stroke is the third leading cause of death in the United States (National Stroke Association, 2010). Stroke is also a leading cause of disability. Approximately every 40 seconds someone in the United States has a stroke which is about 795, 000 per year (National stroke Association, 2010). The incidence of stroke makes it a major health problem in the United States. Prevention and early intervention is the key to reducing death and disability from stroke. Cost effective prevention strategies are needed for the delivery of stroke awareness and prevention.

A priority of our health care system should be to educate the community about stroke risk factors and stroke warning signs to decrease potential death and disability from this preventable disease. Increasing the public's awareness and knowledge of stroke is challenging because of co-existing illness, age of population, and heath literacy. The main priority of this project is to improve public awareness of the risk factors and symptoms of a stroke, and what action to take.

For this project I am focusing on an area in the United States known as the stroke buckle. The stroke buckle is a region consisting of 153 counties in North Carolina, South Carolina, and Georgia (Shrira, Cristenfield, & Howard, 2008). The stroke buckle has had a stroke mortality rate higher than the rest of the United States for five decades (Shrira, et al. , 2008). I would provide community-based education on stroke awareness and prevention in settings such as community centers, senior centers, and churches within the stroke buckle region.

A study performed focused on the impact of a community based stroke screening program on the knowledge of participants regarding signs and symptoms of stroke and risk factors for stroke (Willoughby, Sanders, & Privette, 2001). The findings of this study showed the importance of community based screening programs for increasing the public's knowledge of stroke prevention and risk factors (Willoughby, et al. , 2001). Reducing the severity of risk factors in the community is an effective means of primary prevention and potentially the most effective method to reduce tokes. The goal of this project is to increases stroke awareness while providing information for stroke risk factors. Nursing interventions that will be provided are blood pressure screenings, smoking packets, information on regular physical activity, and a stroke risk factor screening tool. I will discuss the importance of reducing blood pressure, cholesterol levels, body mass index, , and tobacco use in stroke prevention. While some risk factors are beyond a person's control, there are certain lifestyle changes people can make to reduce their chance of having a stroke.

According to the American Heart Association (2010), up to 80% of all strokes are preventable. Risk factors that people can target to lower their risk of having a stroke are smoking, blood pressure, unhealthy diet, and lack of physical exercise. The most critical stroke risk factor is hypertension. Hypertension is defined as individuals having a systolic pressure greater than 140 mmHg or a diastolic greater than 90 mmHg, taking hypertensive drugs, or being told at least twice by a health care provider that they have hypertension (Hylek, D' Antonio, Evans-Molina, Shea, Henault, & Regan, 2006).

Nearly one in three American adults has hypertension, with another 28% or 59 million having pre-hypertension (Fields, Burt, Culter, Hughes, Roccella, & Sorlie, 2004). The risk of stroke is four times greater in older adults with a systolic pressure greater than 160 mmHg, and a diastolic pressure greater than 95 mmHg (Elliott, 2004). Smoking contributes to stroke risk factors such as it raises blood pressure, reduces the level of HDL, makes blood more prone to clot, and damages the protective lining of blood vessels.

Smoking is a significant risk factor for stroke that doubles the risk of stroke compared to nonsmokers (Rosamond, Flegal, Friday, Furie, Go, & Greenlund, 2007). Smoking cessation is one of the cornerstones of stroke prevention. Non modifiable risk factors for stroke are age, gender, race and ethnicity, and family history. The risk for stroke doubles every 10 years after the age of 55 (Rosamound et al. , 2007). African Americans older than age 65 have two to five times the risk of stroke compared with Caucasian adults of similar age (Hylek et al. , 2006). Hispanics have a higher incidence of stroke than Caucasians (Stroke Association, 2010). According to the National Stroke Association (2010), approximately 55, 000 more women than men have a stroke each year. The target audience for this project will be people age 55 or older. All individuals may take part in this program regardless of age. Stroke warning signs are an important component in educating the community.

Stroke warning signs include sudden paralysis, weakness or numbness in the face, arm, or leg; sudden blurred or decreased vision in one or both eyes; difficulty speaking or understanding simple statements; dizziness; loss of balance or loss of coordination; and sudden intense headache (National

Stroke Association, 2010). Decreasing the time from stroke onset to hospital presentation depends on the stroke knowledge of the community. The act F. A. S. T. (Face, Arms, Speech, and Time) campaign promoted by the National Stroke Association is a great way to educate the public on what to do if someone is having a stroke.

The acronym prompts people to look for signs such as a droopy face, numbness or weakness on one side of the body, and slurred speech to act immediately to prevent permanent physical damage. Written and visual material will be available on signs, symptoms, and prevention of stroke. A pilot study evaluated the effects of F. A. S. T. stroke prevention educational program for middle school students (Miller, King, Miller, & Kleindorfer, 2007). Results indicated significant increases in knowledge of stroke risk factors and warning signs (Miller et al. , 2007).

Education on stroke would be beneficial for young people too. Early recognition of stroke symptoms and immediate emergency care are the best ways to reduce the impact of a stroke. According to a report by the Centers for Disease Control and Prevention (2004), only 17% of the public recognize enough of the major warning signs of stroke to call 911. Major barriers contributing to individuals and families understanding the importance of immediately seeking medical treatment when a stroke is suspected include: Lack of knowledge of stroke signs and symptoms, concerns bout health care costs, lower levels of education, inadequate communication with health care providers, and lack of awareness that acute ischemic stroke therapy exists and treatment results are most favorable if initiated within 3 hours of stroke onset (Travis, Flemming, Brown, Meissner, McClelland, & Weigand, 2003).

Results of a study with a random sample of more than 1, 000 adults revealed individuals who had concerns regarding health care access and cost were less likely to be informed on what is a stroke, stroke signs and symptoms, and advances in treatment (Travis et al. , 2003).

These findings emphasize the need for stroke awareness educational programs. I choose to use the Heath Belief Model to understand the relationship between health beliefs and stroke. The Health Belief Model provides a useful framework for understanding stroke prevention. The perceived susceptibility is the individual's perception of having a stroke. The perceived severity is the individual's feelings about the seriousness of having a stroke. Perceived benefits is the individual's belief regarding the effectiveness that a particular change in lifestyle will reduce the risk of having a stroke.

The perceived barriers and perceived threat stage is when an individual will weigh the threats against the potential barriers and benefits, and decide whether or not to change the behavior. The Health Belief Model introduces the concept of cues to action, which are strategies to engage in healthy behaviors (Lowenstein, Foord-May, & Romano, 2009). Reducing stroke risk may be difficult because of beliefs or the individual may not see the danger as personally relevant.

Mutual goal setting, promotion of self-efficacy, and determination of readiness to change are three essential elements that maximize goal achievement related to lifestyle changes (Miller & Spilker, 2003). A study was performed to examine the predictors of intentions to reduce stroke risk

in a sample of at-risk individuals and to find how knowledge and health beliefs influenced intention and actual behavior to reduce stroke risk (Sullivan, White, Young, & Scott, 2009). According to this study, health beliefs may play an important part in stroke prevention, specially beliefs about susceptibility and stroke prevention and education programs that target health beliefs may be most efficient (Sullivan, et al. , 2009). The burden of stroke in the United States can be reduced by a combination of interventions such as primary prevention and control of risk factors. The public's lack of awareness about stroke warning signs and risk factors must be addressed as an important contribution to reducing mortality and morbidity from stroke. The need for new and creative strategies for educating the public is clear.

Nurses are in the position to provide opportunities for effective stroke prevention through education and risk reduction. The challenges for nurses are to prevent strokes by finding ways to promote and sustain healthy behaviors. While planning interventions nurses must consider the importance of literacy and potential hearing, vision, memory changes that may affect learning and retention of information. A survey of patient educational materials showed only 20% were written at the recommended fifth to sixth grade reading level (Cotunga, Vickery, & Carpenter-Haefele, 2005).

Educational materials for this program will be at a fifth grade reading level. Prior to the initiation of the stroke awareness and prevention program, I will provide a pre-test to assess stroke knowledge. I will also provide a post-test to assess the stroke knowledge after the educational intervention. The goal

of the pre and post test is to assess the education provided by the stoke awareness and prevention program. The pre and post test is a way to evaluate if an increase in knowledge has occurred. The individual perception of health risks is an accepted key issue when goals of primary prevention are defined.

The Health Belief Model supports the importance of risk perception for preventive medicine. An underestimation of personal risk could reduce the motivation for change in behavior. Adequate risk perception is an important step for the change of risk related lifestyles. Identification and treatment of modifiable stroke risk factors can reduce stroke and prevent morbidity and mortality. Nurses can help individuals understand stroke risk factors related to their lifestyle. An extensive foundation of evidenced-based information is readily available to help nurses provide preventive interventions to reduce the risk of stroke.

Strokes are preventable if routine risk factor screening is used with evidenced-based interventions. Raising awareness and prevention through controlling major risk factors for stroke will bring about better outcomes. With community education about risk factors and signs and symptoms associated with stroke, and helping individuals take steps to reduce those risks, more lives will be saved from this devastating disease. References American Heart Association. (2010). Heart Disease and Stroke Statistics: Update at-a-glance. www. americanheart. org Centers for Disease Control and Prevention. (2004).

The Atlas of Stroke Mortality. www. cdc. gov Cotunga, N. , Vickery, C. , & Carpenter-Haefele, K. (2005). Evaluation of literacy level of patient education pages in health related journals. Journal of Community Health, 30, 213-219. Elliott, L. (2004). Management of hypertension in the very elderly patient. Hypertension, 44, 800-804. Fields, L. , Burt, V. , Culter, J. , Hughes, J. , Roccella, E. , & Sorlie, P. (2004). The burden of adult hypertension in the United States 1999 to 2000: A rising tide. Stroke, 44, 398-404. Hylek, E. , D'Antonio, J. , Shea, C. , Evans-Molina, C. , Henault, L. , & Regan, S. (2006).

Translating the results of randomized trials into clinical practice: The challenge of warfarin candidacy among hospitalized elderly patients with atrial fibrillation. Stroke, 37, 1075-1080. Lowenstein, A. , Foord-May, L. , & Romano, J. (2009). Teaching strategies for health education and health promotion: Working with patients, families, and communities. Boston: Jones & Bartlett Publishers. Miller, E. , King, K. , Miller, R. , & Kleindorfer, D. (2007). FAST Stroke Prevention Educational Program for Middle School Students: pilot study results. Journal of Neuroscience, 39(4), 236-242. Miller, T. , & Spilker, J. 2003). Readiness to change and educational interventions: Successful strategies to reduce stroke risk. The Journal of Neuroscience Nursing, 35, 215-222. National Stroke Association. (2010). Fact Sheets. www. stroke. org Rosamound, W. , Flegal, K. , Friday, G. , Furie, K. , Go, A. , & Greenlund, K. (2007). Heart disease and stroke statistics-2007 update: A report from the American Heart Association Statistics Committee and Circulation, 115, 69-171. Shrira, I. , Christenfield, N. , & Howard, G. (2008). Exposure to the US Stroke Buckle as a Risk Factor for Cerebrovascular Mortality. Neuroepidemiology, 30, 229-233.

Sullivan, K. , White, K. , Young, R. , & Scott, C. (2009). Predicting behavior to reduce stroke risk in at-risk populations: the role of beliefs. International Journal of Therapy and Rehabilitation, 16(9), 488-496. Travis, L. , Flemminng, S. , Brown, R. , Meissner, I. , McClelland, R. , & Weigand, S. (2003). Awareness of stroke risk factors, symptoms, and treatment is poor in people at highest risk. Journal of Stroke and Cerebrovascular Diseases, 12, 221-227. Willough, D. , Sanders, S. , & Privette, A. (2001). The Impact of a Stroke Screening Program. Public Health Nursing, 18(6), 418-423.