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Independent Study & Mentorship

6 September, 2018

A Stroke of Neurology

Research Assessment

Date: 6 September, 2018

Subject: Types of Strokes and the Factors Affecting Rehabilitation

MLA Citation:

Backhouse, Ellen V., et al. "Cognitive ability, education and socioeconomic status in childhood and risk of post-stroke depression in later life: A systematic review and meta-analysis." *PLoS ONE*, vol. 13, no. 7, 2018, p. e0200525. *Health & Wellness Resource Center*,

<http://link.galegroup.com/apps/doc/A546740327/HWRC?u=j043905010&sid=HWR C&xid=1b33e1f1>. Accessed 6 Sept. 2018.

Robinson, Richard, et al. "Stroke." *The Gale Encyclopedia of Medicine*, edited by Jacqueline L. Longe, 5th ed., Gale, 2015. *Health & Wellness Resource Center*,

<http://link.galegroup.com/apps/doc/RWAZEA593853425/HWRC?u=j043905010&sid=H WRC&xid=cba99428>. Accessed 6 Sept. 2018.

Assessment:

During the summer-shadowing experience with Dr. Dike, it became evident that strokes are a common brain injury that many neurologists have to deal with. In fact, many neurologists choose to specialize on simply strokes and how to prevent them from forming. Thus, purpose of this assessment is to explore the different types of strokes and compare factors that affect rehabilitation of this common yet deadly disease.

To start, strokes, medically known as a cerebral vascular accident (CVA), are a brain injury caused by interruption of blood flow to this crucial organ. There are two types of strokes: ischemic strokes and hemorrhagic strokes. Ischemic strokes are caused by a blocked artery, and they can be further divided down into thrombotic ischemic strokes, which are caused by a buildup of plaque in arteries, and embolic ischemic strokes, which are caused by a traveling blood clot (Robinson). On the other hand, the more dangerous hemorrhagic strokes result in an artery bursting, which leads to a brain bleed. For both types of strokes, age, genetic factors, and lifestyle choices, such as exercise and substance use, play a major role in the formation of a stroke. In another research paper that was analyzed, the association between post-stroke depression and socioeconomic factors such as education were studied. Overall, through a deep meta-analysis of various studies conducted around the world, it was concluded that a lower level of socioeconomic status and education lead to increased susceptibility of post-stroke depression (Backhouse). However, the association was not strong, and it raised some questions, so this assessment will also be looking into further studies and research that can be done to clear these confusions.

While reading about strokes in the article entitled “Stroke”, it became evident that African-Americans and people in the Southeastern region of the United States are more susceptible to this brain injury (Robinson). This was interesting because in the meta-analysis conducted by Backhouse, there were correlations found between post-stroke depression and socioeconomic status, and post-stroke depression is more likely to occur in individuals who experience multiple strokes. Since the Southeast has many of the poorest states of country, such as Georgia, Arkansas, West Virginia, and Kentucky, it made sense that this region, known as the “Stroke Belt”, experiences more strokes. Synthesizing these two sources revealed ample information about the validity of each and how environmental factors as well as socioeconomic factors can impact the development of strokes in individuals. However, such conclusions were unable to be made about why African Americans are twice as likely to develop a stroke. Thus, it would be interesting to research how race and ethnicity, especially at the genetic level, play a role.

Strokes and their symptoms can be quite varied due to which side of the brain is affected. In addition, through my experience at the nursing home in Health Science Clinicals, it became evident that many different healthcare workers, such as a neurologist, speech pathologist, psychologist, and physical therapist, have to collaborate in order to effectively return the patient back to their pre-stroke self. As the ISM journey progresses, I would like to research different rehabilitation methods used for strokes based on their location in the brain, and how factors such as mood and temperament can be affected. In addition, the conclusions made in the meta-analysis were quite weak, so for a future assessment, it would be interesting to analyze how

post-stroke depression forms and how exactly a lower education would impact the development of this mental illness in the first place.

Currently, strokes are the second most common cause of death worldwide. Thus, in the field of neurology, dealing with patients that can develop a stroke or have already developed a stroke will be a considerable amount of the job. Although the current technology used to detect and measure strokes is limited to MRI and CT scans (Robinson), the advancement of society may bring technology that can detect the formation of a stroke. As mentioned in the previous assessment, technology may take an ample portion of the trial-and-error factor out of neurology, but it will never replace the career itself. Regardless of what type of technology develops in the future, it is important that in public health, the signs of a stroke and its risk factors are properly conveyed.

Overall, this assessment has served to provide a basic understanding of strokes and how they are formed. With this knowledge, new questions and potential areas of research have been sparked, and they can be used to guide future assessments and interviews.