

Community Assessment Project: Jackson's Gap Stroke Prevention

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Abstract

The community of Jackson's Gap, AL has been identified as a high risk health population because of the prevalence of stroke and cardiovascular disease along with rural isolation, and educational socioeconomic barriers. In co-ordinance with Healthy People 2020's goals to reduce the event of stroke and hypertension and increase awareness of signs of stroke and high blood pressure, several community specific risk factors were identified via thorough physical assessment of the area, online research, and interview process with a key informant. Identified modifiable risk factors that remain in focus during the community intervention include health knowledge deficits, drug abuse, sedentary lifestyle, and poor dietary nutrition. By providing a primary prevention community outreach intervention based around these recognized risk factors, the desired outcome of this project is to increase a specific unreached rural population's health awareness and implement education supporting healthy lifestyle choices which is projected to a decrease in incident of cerebrovascular accidents and aid the Healthy People 2020 stroke and hypertensive goal statistics.

Keywords: stroke, hypertension, rural, community, education, prevention

Jackson's Gap is located in east-central Alabama in the heart of Tallapoosa County. It lies between Dadeville and Alexander City, which are two cities used daily for the citizens of Jackson's Gap. The town covers 8.52 square miles, and as of 2010, the total population consists of 828 citizens. In 2007, 33% of adults in Alabama were diagnosed with hypertension, thus increasing the risk for developing stroke. Stroke is the third leading cause of death in Alabama, which is 63.1% of the state's population. According to the Centers for Disease Control and Prevention (CDC), stroke is the fifth leading cause of death in the nation, killing an American every four minutes (2015). In Tallapoosa County between 2009 and 2011, 75 people died due to stroke (Alabama Department of Public Health, 2013). One of the goals of Healthy People 2020 is to "increase overall cardiovascular health in the U.S. population." Based on the data that 29.9% of adults who are eighteen years of age or older had high blood pressure in 2005-08, Healthy People 2020 set the specific objective of reducing the proportion of adults with hypertension in order to prevent stroke. The target goal is to have a ten percent improvement, reducing the proportion of adults with high blood pressure to 26.9% (U.S. Department of Health and Human Services [HHS], 2015). Another related objective is to increase the proportion of adults who have had their blood pressure measured within the past two years and can state whether their blood pressure was normal or high. The target goal is to have a two percent improvement, increasing the population awareness to 92.6%. Health disparities that attribute to the incidence of hypertension, and ultimately stroke, include educational attainment and family income levels. Only 8.9% of Jackson's Gap has an education level with a bachelor's degree or higher, and the average household income is \$27,748, which is only slightly higher than the poverty threshold if based on a four-person family. These two factors alone increase the risk of stroke in Jackson's Gap. Furthermore, in Tallapoosa County, 31% of adults over the age of

eighteen smoke, which is highly linked to hypertension and is a risk factor for stroke.

Additionally, 37% of residents in Tallapoosa County over the age of twenty are obese, which is another risk factor for hypertension and stroke (Alabama Department of Public Health, 2013).

When obesity is combined with a sedentary lifestyle and nutrient deficiencies, the risk for hypertension and stroke is further increased. Fortunately, while Jackson's Gap does not have any place for recreational activity or health service centers of its own, residents can easily travel to Dadeville, Alexander City, or other surrounding cities in Tallapoosa County to access several recreational parks and hospitals. Throughout the assessment of the town of Jackson's Gap, further exploration is done to examine the impact of community resources and lifestyle on the population's health. The purpose of this paper is to assess stroke risks and interventions, such as blood pressure screening and health promotion, to prevent the incidence of stroke in the Jackson's Gap community.

Community Assessment

The focus of this assessment can be found under the Healthy People 2020 topic "Heart Disease and Stroke," with the specific objective of reducing the proportion of adults who have high blood pressure. This target goal is relevant to the population in Jackson's Gap because more than 37% of Alabama residents have high blood pressure. By reducing the rate of hypertension, risks for other life-threatening diseases, such as stroke and heart disease, would be decreased. This is a major health concern for residents of Tallapoosa County since cardiovascular diseases account for the most deaths (Alabama Department of Public Health, 2013).

One contributing factor to stroke in the Town of Jackson's Gap is a knowledge deficit among the population. Kozub (2010) found that the general population of American citizens does not have an understanding of stroke risk factors, which include hypertension, smoking, physical

inactivity, and poor diet. During the interview, the town clerk stated that there were no health services in the community, so people had to go travel to Dadeville, Alexander City, or Auburn in order to receive care. Because health service centers are not conveniently located within the town, people may be unaware of conditions that put them at risk. Additionally, the distance of health service centers can result in noncompliance to medication regimens necessary for conditions like hypertension or, simply, refusal or inability to follow-up or get routine check-ups, thus increasing their risk of developing further chronic illnesses and complications. The distance to health service centers may be a contributing factor to the population's lack of educational and preventative resources. These lack of resources serve as socioeconomic barriers that place the population at higher risk of developing poor health conditions. Additionally, the town clerk continued to say that she wished the people of Jackson's Gap would come together and work more as a community. While the community is fairly small in size and population, residents are spread apart over a large area, putting them at an increased risk for isolation, which can cause potential health disparities, especially for the elderly, those of lower socioeconomic status, or those with chronic illnesses. In emergent situations, it is much more difficult for these populations to be reached with immediate healthcare aid. The town clerk also stated that the primary demographic of this community is an older African American population that never travels far from this area. Unfortunately, because of insufficient transportation to places, such as doctor's offices, residents may not realize the importance of needing a primary physician or someone to assist with home health needs. Because residents are used to the distance and isolation, they many are unaware of accompanying risks and factors that lead to poor health conditions, including stroke and hypertension. As individuals are cut off from influences of resources such as community health fairs and health promotion organizations, the results lead to

insufficient knowledge and ignorance in the community about potential stroke risks.

Unfortunately, the lack of health promotion programs, health service centers, and screenings is not the only weakness in Jackson's Gap.

As hypertension, the leading cause of stroke, is prevalent within Tallapoosa County, residents in Jackson's Gap are at added risk of developing a cardiovascular condition. Seventy-three million Americans have hypertension, and most go uncontrolled with 30% being unaware they have the condition, as demonstrated by Kozub (2010). Since knowledge deficit has been identified to be a leading risk factor for the community, ignorance of having hypertension and how to lower blood pressure numbers can also be weak points of self-managing care. Furthermore, the town clerk also mentioned her biggest concern in the community to be illegal drug abuse. Unfortunately, the National Institute on Drug Abuse (2012) emphasizes how drugs such as cocaine, alcohol, and tobacco increase stroke risk and cause hypertension and generalized vasoconstriction. These drugs affect the central nervous system, resulting in physiological changes in many body systems, particularly the cardiovascular system. Use of illicit drugs, such as cocaine, causes blood vessel constriction, increased heart rate, and increased blood pressure. Additionally, changes in heart rhythm and heart attacks are common occurrences with drug use (National Institute on Drug Abuse, 2012). Nicotine, which is found in tobacco products, is toxic to the body and increases the risk of heart disease and stroke. Since smoking is dominant within the area this correlates with the prevalence of hypertension, and ultimately stroke, in the community (Alabama Department of Public Health, 2013). Substance abuse can cause detrimental effects for users and increase health risks, so there is a need for further education on causes of hypertension.

Another evident contributing factor to stroke in Jackson's Gap is a lack of physical activity and poor diet. As mentioned earlier, there are no recreational parks, fields, or gyms accessible in Jackson's Gap, causing its residents to either find recreation outside of the community or have a sedentary lifestyle. While there is plentiful land noticed during the windshield survey, the roads are rough and poorly managed, making it difficult to be physically active outdoors. Even for the children, no playgrounds are within the town limit. Because cars and private transportation are the main sources of travel and there are no bus stops within walking distance of the community, a sedentary lifestyle is further emphasized. Additionally, poor diets contribute to stroke in Jackson's Gap. Within the community, there is no grocery store or local market to buy food, making it difficult to choose healthy options. Neighboring restaurants include fast food places near Highway 280, which may be the most convenient but offer unhealthy options. An unhealthy diet based on processed foods leads to elevated cholesterol levels, high blood pressure, and obesity, which are all heavily influential factors for stroke. Educating residents on the importance of exercise and proper nutrition is essential, especially for stroke prevention. Fortunately, since residents of Jackson's Gap are used to commuting to Alex City or Dadeville for work and leisure, they have an advantage of finding shopping centers that fit their nutritional needs. The rural community also has access to the resource of land which may be used to garden healthy fresh food choices at an affordable cost while also increasing physical activity.

Through the interview process and the physical assessment of Jackson's Gap during the windshield survey, the community appears to be lacking in many crucial areas, thus increasing the health issues present. The lack of health service centers and health promotion in the area, the prevalence of hypertension, and lack of recreational resources and limited food options illustrate

the community's need for education about stroke risk factors. The identified diagnosis for Jackson's Gap is the following: risk of stroke among residents in Tallapoosa County related to knowledge deficit about stroke, hypertension, and physical inactivity and poor diet. Fortunately, the town's location off Highway 280 and its proximity to bigger cities such as Alex City, Dadeville, and Auburn, allow for improvement in residents' lifestyles.

Community Intervention

Because stroke is one of the top leading causes of deaths in the United States, interventions linked to Healthy People 2020 goals to prevent stroke from occurring are crucial. The intervention focuses on the following: 1) the primary prevention of stroke via health promotion to increase the proportion of adults who have had their blood pressure taken within the past two years and can state if it was normal or high, and 2) the secondary prevention of stroke through blood pressure screening to reduce the number of those with hypertension. The intervention will take place at Jackson's Gap Baptist Church on Sunday, June 21, 2015 at 11:00pm after the church service. A table will be set up and handouts distributed to the members of the community. Four separate handouts have been developed. One is a FAST flyer, listing the following classic signs of stroke: facial drooping, arm weakness, slurred speech, and time to call 9-1-1. Another handout lists the common risk factors of stroke and how to avoid these risk factors. The third handout is a blood pressure log to help track obtained blood pressures. The final handout is a form to educate the people on understanding blood pressure numbers, knowing the normal ranges, and how to check blood pressure.

Preventing stroke begins by raising awareness and educating people about risk factors and lifestyle modifications that affect blood pressure. Since stroke is the third leading cause of death in the United States, the focus of the intervention is on primary prevention of stroke in

adults in Jackson's Gap. Since hypertension is a leading cause of stroke, controlling blood pressures has been identified as a modifiable risk factor. By focusing the intervention on blood pressure awareness and reduction, the target population will have the proper understanding and knowledge to maintain or establish healthier habits that will reduce the risk of stroke and improve their health and quality of life. Intervention objectives were targeted to enable residents in the community to: 1) understand blood pressure readings and the relation between high blood pressure and increased health risks, 2) be conscious of their current blood pressure and identify ways to reduce hypertension if applicable, and 3) raise awareness about the signs and adjustable risks of stroke. By promoting blood pressure awareness and reduction, the desired outcome is that people of Jackson's Gap are able to maintain blood pressures within normal ranges, therefore, reducing the risk of stroke in the community.

Understanding blood pressure readings is essential for the primary prevention of hypertension and stroke. Takagi and Umemoto (2013) demonstrated that by lowering systolic blood pressure by 10mmHg or lowering diastolic by 5 mmHg, stroke is reduced by about 30%. Furthermore, 51% of stroke deaths worldwide are caused by high systolic blood pressure, which is unfortunate since blood pressure is a modifiable factor (Gaciong, Siński, and Lewandowski, 2013). Educating the community of Jackson's Gap about blood pressure values and risks associated with blood pressures higher than 120/80 can help reduce the number of people affected by stroke and other damaging consequences linked to hypertension. Unfortunately, even those with developed healthy habits may be at risk for stroke due to non-modifiable factors including race, age, and family history. Therefore, it's important to foster mindfulness about signs of acute stroke.

Raising awareness about stroke warning signs is crucial because delays for seeking medical care can be attributed primarily to the inability to recognize stroke signs. The FAST acronym is easy to remember and refers to the following common signs and necessary actions associated with stroke: facial drooping, arm weakness, slurred speech, time to call 9-1-1. Kozub (2010) found that the general population faces understanding insufficiencies about stroke risk factors and warning signs. Additionally, about one-fifth of the participants representing the general population were unable to distinguish stroke symptoms from symptoms occurring from a heart attack. While the goal of the intervention is primary prevention through increasing community understanding about stroke, the community is influenced to make behavioral modifications that can enhance individuals' quality of life. Since knowledge deficit is an identified common trend for communities nationwide, particularly Jackson's Gap, increasing the knowledge about modifiable risk factors, stroke warning signs, and actions needed to take in event of a stroke can lead to positive effects and reduced stroke outcomes.

During our time spent at Jackson's Gap Baptist Church, about 30 adults got their blood pressures checked and received blood pressure logs, information on understanding blood pressure numbers, FAST flyers, and informational handouts about stroke prevention and modifiable risks. The information was explained clearly, and any questions asked were answered. About one-half of those who got their blood pressures checked knew what their blood pressures were normally. By the time the intervention ended, all of the participants were made aware of their current blood pressures and understood the meaning of the values. One-third of the 30 adults were hypertensive, and almost all of them were aware of their condition and took medicine daily for it. Lifestyle changes, such as diet and exercise, were also discussed for those with hypertension. Each member of the community was given an explanation about the

correlation between high blood pressure and stroke. While at Jackson's Gap Baptist Church, the pastor shared how his wife recently had a stroke and suffered disabilities due to the sudden, devastating event. The pastor continued to stress that he wished he had been more informed about preventative measures, supporting research that there is a need for health promotion and stroke awareness.

Conclusion

Beginning with thorough data gathering and generation via community windshield assessment, online population research, and an interview with a key informant of the area, the most potent risk factors regarding increased risk for stroke and hypertension were identified so that a community specific intervention could be formulated. By focusing our intervention around primary prevention education of the most prevalent modifiable risk factors for stroke and poor cardiovascular health such as health knowledge deficit, drug abuse, sedentary lifestyle, and inadequate dietary choices in the Jackson's Gap community it was more likely that our intervention would have a greater chance of successfully decreasing community specific health risks. Follow-up evaluation of the effectiveness of the project design and integrative process of the intervention along with continued community oriented outreach over time may be necessary to accurately track the potency of the implemented community assessment project's effect on attaining the desired Healthy People 2020 statistics. However, the client feedback received during the intervention was vastly positive and reflected a higher understanding of the presented problems, underlying causes, and goal objectives as evidenced by intuitive questioning and a strong desire from the targeted population to achieve greater health standards. As gathered from the overwhelming amount of client interest, health disparities in this rural area are most likely

due to a population that has little to no access to financial or knowledge based resources and not so much as a population that is unwilling or uninterested in improved health status.

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