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Epidemiology of Common Stroke Risk Factors: Implications Report

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ABSTRACT

Common stroke risk factors can be involved when understanding the anatomy and etiology of disease occurrence. Stroke can be a serious health problem in various populations and may present higher risk of incident to family, siblings, and relatives. Other factors can relate to stroke occurrence such as geographical locations, for example, stroke belt states and connections to cerebrovascular accident (CVA). Ethnic and race connections may be present when identifying stroke epidemiology. This discussion includes an epidemiology chart depicting stroke environmental and common risk factors. Ethical implications and concerns are examined. Stroke - Environmental and Common Risk Factors graphic is included.

Keywords: Stroke Epidemiology; Stroke Belt States; Cerebrovascular Accident; Ethnic and Race Connections; Environmental and Common Risk factors Ethical Issues; Inflammation; Thrombosis; Lipid Metabolism; Arterial Hypertension; Diabetes, Ischemic; Preventative Measures; Education; Action Plans; Mitigate Risk; Lifestyle Factors; Diet; herbal remedies; supplements; Modifiable Risk Factors; Dysglycemia; Prehypertension; Cardiovascular Risk; Natural Diet; Holistic Therapies; Hyperbaric Oxygen Therapy

Introduction

In developed countries, the most common cause of disability is stroke and it is the second most prevalent cause of death (Kuriakose [1]). Stroke can occur through a combination of environmental and common risk factors. The disease is multi-factorial. Stroke epidemiologic research has noted various common links to stroke occurrence. Potential common factors for stroke can involve inflammation, thrombosis, and lipid metabolism. Other common stroke risk factors can include arterial hypertension and diabetes. Approximately 80% of strokes are ischemic rather than hemorrhagic. There are about 30 to 40 thousand new stroke cases reported annually (Kalkonde [2]).

Additional associations identified with stroke can include inflammation, thrombosis, and lipid metabolism. However, common environmental risk factors are important in stroke pathogenesis, for example, stroke belt states where learned negative behaviors such as lack of exercise, poor diet, substance abuse, smoking, and other modifiable health factors can play a significant role in stroke occurrence (Kleindorfer, et al. [3]). Learned negative health behaviors may be inherited by nuclear family members, siblings, extending family, and cultural factors affecting high risk for stroke occurrence. Ethnic and racial connections to stroke can be associated via learned behaviors, lack of knowledge regarding stroke risks, cultural foods, diet, and habits (Figure 1).

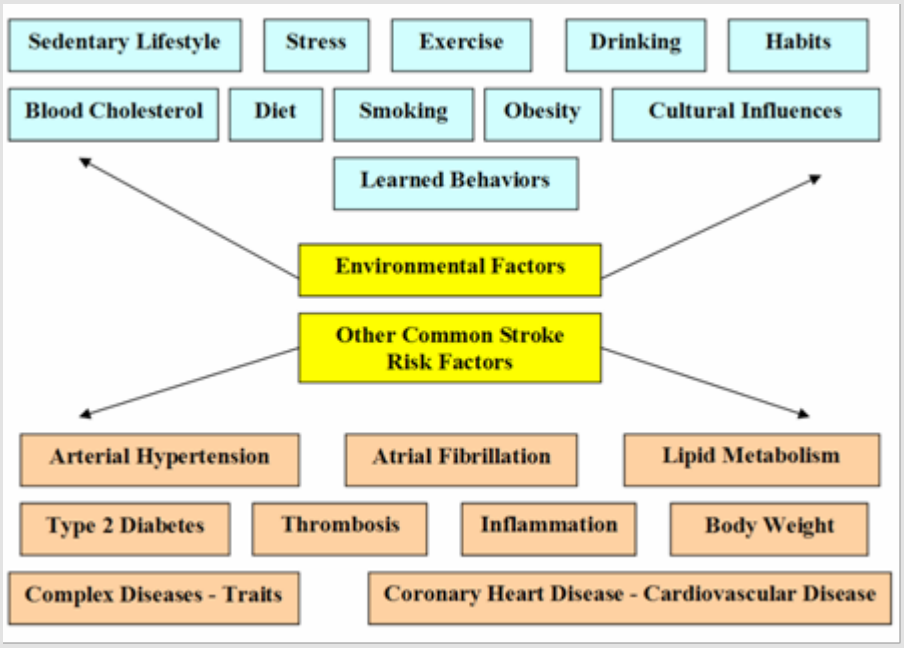

Figure 1: Stroke - Environmental and Common Risk Factors.

Screening and Mitigation Strategies

Stroke is preventable, predictable, and emphasis should be placed on preventative measures, education, and action plans to mitigate risk. A robust emphasis should be placed on educating the public and at-risk populations about stroke risk factors and how stroke can be avoided. Reducing blood pressure, stress, and providing education about weight control and lifestyle interventions can help the public mitigate stroke risk (Kleindorfer, et al. [3]). Stroke prevention education can be designed for K12 education, higher education institutions, public service education, and city, state, and neighborhood educational programs. Special attention to lifestyle factors and proper diet must be included in comprehensive stroke educational programs for the public (Kleindorfer, et al. [3]). Ten modifiable risk factors for stroke such as diabetes mellitus, alcohol consumption, cardiac causes, smoking, psychological factors, abdominal obesity, unhealthy diet, abnormal lipids, lack of physical activity, and hypertension can be areas of focus when designing intervention programs to mitigate risk (Kleindorfer, et al. [3]).

Strategy to Increase Community Engagement Screening to Identify Stroke Risk Factors

Two strategies that can be used to mitigate stroke risk can include a high-risk strategy and a mass population-based strategy. A high-risk strategy can identify individuals and populations most at-risk for cardiovascular diseases (CVDs). In the high-risk category, individuals can be identified who may have increased risk for cardiovascular disease with a presence of multi-risk factors such as dysglycemia and prehypertension. Interventions for this category can include screening for hypertension, lifestyle changes, and controlling blood pressure and lipids (Kleindorfer, et al. [3]).

For a mass population-based strategy, an entire population can be targeted for reducing cardiovascular risk. A health systems approach with legislative and policy changes can be a focus for mass mobilization. Health education in workplace, school, and community involving legislative measures and mass media to promote reduction of alcohol intake, smoking cessation, increased exercise, and healthy nutrition can be a focus (Kleindorfer, et al. [3]). Promotion of activities such as bicycling, stair climbing, and walking for transportation can be suggested strategies to increase physical activity (Kalkonde [2]). Digital technologies can be utilized to promote healthy messages with health education content.

Holistic natural diet and natural therapies should be explained in detail to the public to help advance self-care and self-advocacy measures to reduce stroke risk. Lists for natural foods, natural therapeutics, and supplements that heal the body, raise immunity, and reduce disease risk should be presented to the public in various formats to reach all audiences. Banning of advertisements for unhealthy lifestyles, unhealthy diets, alcohol, and smoking should be seriously considered. Addressing knowledge gaps, prioritizing a health education agenda, and strengthening local health systems should be foundational tenets in a mass population-based strategy. Finally, appre-

ciating and recognizing cultural, ethnic, and genetic diversity should be considered when designing health education programs to address positives that can be strengthened and negatives that can be mitigated regarding health choices and habits.

Stroke Epidemiology: Ethical Issues

Epidemiology involves the distribution and determination of disease. This fact sheet examines various ethical issues related to stroke and features information and ethical implications for healthcare decision-makers to effectively address. The role of ethics in addressing these concerns is examined. Research-based action steps to improve ethical issues are presented.

Fact Sheet Summary

Vast ethical concerns can arise when researchers engage in epidemiological and clinical studies. When designing and conducting clinical research, it is critical to have accurate and ethical data. Various ethical challenges can arise when conducting trials of proposed stroke treatments. For example, drug administration, short time frames for decision-making, administering of potentially toxic drugs, and conducting trial studies on vulnerable and ill patients can be possible ethical concerns to researchers. These and other ethical concerns demand researchers cautiously evaluate benefits and risks of the research process, informed consent, and the treatment of control patients involved in studies.

Clinical research can involve animal experiments that later crossover to human trails. This type of research can be negatively criticized by the public and can be highly unethical as well. When stroke studies are conducted, researchers should be especially mindful of ethical issues involving risk, benefit, informed consent, and implications involving chronically ill and vulnerable patients. These circumstances are commonly applicable to neuroclinical trials in general. Clinical stroke trials can involve chronically disabled and vulnerable patients, therefore, ethical issues and concerns are important considerations.

Administering potentially toxic drugs to vulnerable stroke patients may expose trial participants to further damage. Decision-making under short time frames, posing proper study questions, and conducting an experiment accurately can be other ethical concerns. For many clinical trials and studies, these areas can provide possible ethical dilemmas for researchers. It is critical to conduct ethical research to seek thorough data for stroke solutions; however, studies should be conducted in ways that do not harm participants. Harmful pharmaceutical drugs or surgery should never be administered to unknowing and vulnerable stroke patients. It is highly egregious and unethical to conduct research of this type. To avoid these challenges, researchers should conduct stroke trials that do no harm to study participants such as lifestyle, behavioral, educational, diet, nutrition, herbal, supplements, and hyperbaric oxygen therapy studies rather than harmful toxic drug studies for profiteering corporations.

Action Steps

Multiple action steps for conducting stroke trials and studies should involve solutions that do not harm stroke patients, but rather help to educate, inform, and heal. Studies should be conducted in areas such as lifestyle, behavioral, educational, diet, nutrition, herbal, supplements, and hyperbaric oxygen therapy. Each of these areas can aid in assisting patients in changing negative habits into positive lifestyle choices. Furthermore, these types of remedies can prove to be valuable in healing and recovering the body from various health problems (Kleindorfer, et al. [3]). Harmful drug experiments on humans and animals should be outlawed and criminalized.

Conclusion

Choosing healthy natural non-GMO foods can aid in preventing stroke occurrence. Targeted populations should be taught about eating fresh fruits, vegetables, and avoiding manufactured processed foods. Lowering blood pressure and avoiding and controlling diabetes with natural foods, herbal remedies, and supplements should be taught in stroke prevention educational programs. This discussion reported common stroke implications, screening, and mitigation strategies. In addition, the discussion examined strategies to increase community engagement screening to identify stroke risk factors. An epidemiology chart depicting stroke environmental and common risk factors was presented. Epidemiological researchers should conduct evaluations with serious ethical scrutiny when examining public health concerns. This fact sheet examined various ethical issues related to stroke featuring information and ethical implications for healthcare decision-makers to effectively address. The role of ethics in addressing these concerns was examined. Research-based action steps to improve ethical issues were presented. Stroke - Environmental and Common Risk Factors graphic was included

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