

PREVENTION OF STROKE AMONG HYPERTENSIVE PATIENTS – A REVIEW

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ABSTRACT

Hypertension is a significant risk factor for heart disease; stroke and other cardio vascular diseases and an estimated 970 million people worldwide suffer from the disease resulting in significant morbidity, mortality and financial burden globally. Hypertension defined as systolic blood pressure ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg, is a major growing health problem across the globe. It is the most common risk factor for cardiovascular disease and affects nearly two-thirds of adults aged 60 years or older. It is estimated that uncontrolled HTN is responsible for 7.5 million deaths per year worldwide. Despite various advances in the field it is projected that 1.56 billion people will suffer from HTN by 2025. HTN can be classified as primary (or essential) HTN and secondary HTN accounting for 95% and 5% of hypertensive patients respectively. Although the aetiology of essential HTN is unknown, it is often associated with increased salt intake and obesity and has a strong relationship with family history, underscoring the possibility of genetic predisposition for the disease

KEY WORDS: Hypertension, heart disease, stroke, blood pressure.

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INTRODUCTION

Hypertension is a significant risk factor for heart disease; stroke and other cardio vascular diseases and an estimated 970 million people worldwide suffer from the disease resulting in significant morbidity, mortality and financial burden globally. Hypertension defined as systolic blood pressure ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg, is a major growing health problem across the globe. It is the most common risk factor for cardiovascular disease and affects nearly two-thirds of adults aged 60 years or older. It is estimated that uncontrolled HTN is responsible for 7.5 million deaths per year worldwide. Despite various advances in the field it is projected that 1.56 billion people will suffer from HTN by 2025. HTN can be classified as primary (or essential) HTN and secondary HTN accounting for 95% and 5% of hypertensive patients respectively. Although the aetiology of essential HTN is unknown, it is often associated with increased salt intake and obesity and has a strong relationship with family history, underscoring the possibility of genetic predisposition for the disease

A stroke, or Cerebrovascular accident (CVA), is the rapid loss of brain functions due to disturbance in the blood supply to the brain. This can be due to ischemia caused by thrombosis, arterial embolism, or a haemorrhage. As a result, the affected area of the brain cannot function, which might result in an inability to move one or more limbs on one side of the body, inability to understand or formulate speech, or an inability on one side of the visual field

Stroke is the third most common cause of death in the world after heart diseases and cancers. Annually, 15 million people worldwide suffer from a stroke. Out of these, 5 million attain optimal recovery, 5 million die, and 5 million suffer from a long lasting disability, placing a huge burden on families and communities. Those who develop a stroke are more in Sub-Saharan Africa than in developed countries. Tanzania, a Sub-Saharan African country in East Africa, faces challenges relating to the outcomes of stroke, similar to other Sub-Saharan countries. According to the Ministry of Health of Tanzania, the burden share of conditions requiring long-term rehabilitation, including cardiovascular disorders, cancer, and anaemia, account for 25% of the disease burden. Out of these, cardiovascular disorders alone account for 11.9% of morbidity and mortality associated with Stroke. Morbidity and mortality rate in India during 2007 was 90-222 per 100,000 population aged <40 years, and in the year 2012, the rate in India was 0.1 to 0.3 per 100 population aged <45 years

REVIEW OF LITERATURE

It involves systematic identification, location, scrutiny and summary of written materials that contain information on a research problem. The literature review is based on an extensive survey of books, journals and international nursing index. Research and non-research literature were reviewed to broaden the understanding and gain insight into the problem under study.

Kapil Saini (2014) stated that health is real wealth. A healthy person is an asset to himself, to his family and his community. On the other hand an ailing person is a burden on all. Health is a pivot upon which a man's whole personality and his wellbeing depend. Health can be achieved only by understanding what health is, on what it depends and then applying this knowledge in everyday life. The care of the body regarding food, cleanliness, exercise, rest and protection against disease are essential for the preservation of good health. Life is for living. Without health, life is deprived of not only much of its usefulness, but also of its joys and pleasure.

Gray William K (2013). The obvious benefit of having a healthy lifestyle is that you will be healthy. Most of the major illnesses, particularly the ones that shorten your life, are the result of not living a healthy lifestyle. You should find that if your health is much improved, this will ultimately allow you live for a much longer time. Admittedly, not all illnesses can be avoided with a healthy lifestyle, but you will have a much better chance of staying healthy if you live that kind lifestyle.

Levy PD (2013/2015) says that one of the important life style related diseases is hypertension. Hypertension is also one of the most common worldwide diseases afflicting human community. Due to the associated mortality and cost to society, preventing and treating hypertension is an important public health challenge. Fortunately, recent advances

and trials in hypertension research are leading to an increased understanding of the patho-physiology of hypertension and the promise for novel pharmacologic and interventional treatment for this widespread disease.

Suhas Dabhade et al (2013) says that high blood pressure is often referred to as “The silent killer”. Most people with high blood pressure don’t have any high blood pressure symptoms, since the effect are occurring inside the body. The body structures that chronic high blood pressure affects the most include Blood vessels, Heart, Brain, Kidneys and the Eyes. Because of the effects on these organs, a person who has had high blood pressure for a long time (known as chronic hypertension) can suffer kidney failure, congestive heart failure (CHF), eye damage with loss of vision, peripheral arterial disease including bulges or outpouchings of the aorta (called aneurysms) and stroke. In fact, when compared to people without high blood pressure, people with untreated high blood pressure are 7 times more likely to have a stroke.

Kenneth M Flagel et al (1987): Estimates of the risk of stroke for men with non-rheumatic atrial fibrillation were obtained from two large cohort studies. The causes of hypertension are Smoking, Obesity or being overweight, Diabetes, Sedentary lifestyle, lack of physical activity, high levels of salt intake, insufficient calcium, potassium, and magnesium consumption, Vitamin D deficiency, high levels of alcohol consumption, Stress, Ageing, Medicines such as birth control pills, Genetics and family history of hypertension, Chronic kidney disease, Adrenal and thyroid problems or tumours.

Rosei BA (2015): Stroke or Cerebro-vascular accident (CVA) is a disease which affects the brain function. The brain is vital to our existence. It controls our voluntary movements and it regulates involuntary activities such as breathing and heartbeat. The brain serves as the seat of human consciousness. It stores our memories, enables us to feel emotions, and gives us our personalities. In short, the brain dictates the behaviours that allow us to survive and makes us who we are.

Vaibhav Rastogi et al (2015): Bow Hunter’s syndrome is a mechanical occlusion of the vertebral artery which leads to reduction in blood flow in posterior cerebral circulation. Stroke occurs when an artery becomes blocked by blood clots or by the gradual build-up of plaque and other fatty deposits (ischemic stroke) or reputed when weak spot on the vessel wall break (haemorrhagic stroke). Brain stroke, commonly causing paralysis of one half of the body is among the top 3 causes of death and disability in the world (the other two being heart attack and cancer). Stroke brings about a sudden transformation in the sufferer’s life. A completely independent person may become paralysed, making him/ her dependent on others for even their basic needs such as bathing, toileting and feeding needs. Moreover, stroke is a major cause of financial burden for the sufferer. The patient is unable to attend to his job due to disability leading to the loss of income. In addition, the treatment of stroke and caring for the stroke patient adds to the financial burden.

Eva Lotta Glader et al (2010): To prevent new cardiovascular events after a stroke prescribed preventive drugs should be used continuously. Preventive measures of stroke are following low salt low fat diet, regular exercise, quit smoking, limiting alcohol, reducing stress, regular blood pressure monitoring, and adequate sleep and maintaining the normal body mass index. Making patients better aware of their increased risk for stroke is the first step towards improving percentage of success in stroke prevention. Health care providers can play a crucial role in providing the necessary formation to help increase patient awareness on prevention of stroke among hypertensive patients. From there, the patient education and stroke prevention can be put into practice.

The American Heart Association [AHA] (2015) & Daqniel H O’Leary et al (1999): The combined thickness of the intima and media of carotid artery is associated with prevalence of cardiovascular disease. The AHA measures cardiovascular health of the nation by tracking seven key health factors and behaviours that increase risks for heart disease and stroke. We call these “Life’s Simple 7” and we measure them to track progress towards our 2020 Impact Goal: to improve the cardiovascular health of all Americans by 20 percent and reduce deaths from cardiovascular diseases and stroke by 20 percent, by the year 2020. Life’s Simple 7 are: not smoking, physical activity, healthy diet and controlling body weight, cholesterol, blood pressure and blood sugar.

According to the **World Health Organization (WHO) update in 2015**, 15 million people suffered stroke worldwide each year. Of these, 5 million die and another 5 million are permanently disabled. High blood pressure contributes to more than 12.7 million strokes worldwide. Europe averages approximately 650000 stroke deaths each year. Among American Indians/ Alaska natives, percentage of adults affected by stroke is 5.3%; in African-American adults percentage affected by stroke is 3.2%. Among whites, percentage of adults affected by stroke is 2.5%, while in Asians the adult population affected by stroke is 2.4%.

World stroke Day (2015) is observed on October 29 to underscore the serious nature and high rates of stroke, raise awareness of the prevention and treatment of the condition, and ensure better care and support for survivors. On this day, organisations around the world have facilitated events emphasising education, testing, and initiatives to improve damaging effects of stroke worldwide. The annual event was started in 2006 by the World Stroke Organization (WSO). The WSO declared a public health emergency in 2010.

The World Health Organization statistics (2012) released a report putting the spotlight on the growing problem and it states that one in three adults worldwide, according to the report, has raised blood pressure – a condition that causes around half of all the deaths from stroke and heart disease. WHO (2015) estimates, that by 2050, 80% stroke cases in the world would occur in low and middle income countries mainly India and China. This is the reason why India has now come out with national guidelines for stroke management.

American Heart Association/ American Stroke Association (2015) has released an annual snapshot of heart disease and stroke statistics in the U.S., the new report adding a global view. Health data compiled from more than 190 countries show heart disease remains the No. 1 global cause of death with 17.3 million deaths each year

Stroke-In 2015: Worldwide prevalence of stroke was 33 million, with 16.9 million people having a first stroke. Stroke was the second-leading global cause of death behind heart disease, accounting for 11.13% of total deaths worldwide. Stroke is the No. 4 cause of death in the United States, killing nearly 129,000 people a year. Stroke kills someone in the U.S. about once every four minutes. African-Americans have nearly twice the risk for a first-ever stroke than white people, and a much higher death rate from stroke. Over the past 10 years, the death rate from stroke has fallen about 35 percent and the number of stroke deaths has dropped about 21 percent. About 795,000 people have a stroke every year. Someone in the U.S. has a stroke about once every 40 seconds. Stroke causes 1 of every 20 deaths in the U.S. Stroke is a leading cause of disability. Stroke is the leading preventable cause of disability.

“Heart Disease and Stroke Statistics (2015) updated a report from the American Heart Association: That number is expected to rise to more than 23.6 million by 2030, the report found. Stroke remains the No. 2 cause of death in the world. The stroke death rate - *the number of deaths per 100,000 people* - went down between 1990 and 2010. However, the number of people having first and recurrent strokes each year went up, reaching 33 million in 2010. Here are a few key statistics about heart disease, stroke, other cardiovascular diseases and their risk factors, in addition to commonly cited statistics about the association’s research programme.

Indian Council of Medical Research (2015) says that stroke is a major cause for loss of life, limbs and speech in India, estimating there were 9.3 lakh cases of stroke and 6.4 lakh deaths due to stroke in India, most of the people being less than 45 years old. Experts say that if deaths as well as disability are counted together, then India lost 63 lakhs of disability-adjusted life years in 2004. India will report 1.6 million cases of stroke annually, at least one-third of whom will be disabled.

The World Stroke Proclamation (2015) says as follows:

- Whereas; stroke is a global epidemic that threatens lives, health and quality of life.
- Whereas; much can be done to prevent and treat stroke, and rehabilitate those who suffer from one. Professional and public awareness is the first step to action.

Malcolm et al (2003): The traditional approach to the use of blood pressure lowering has been limited, because intervention has been directed only to the small percentage of people in the upper part of the blood pressure

distribution. Increase awareness of the public, policymakers, and health professionals about the causes and symptoms of stroke. Send a unified, consistent message throughout the world by coordinating and enhancing existing stroke campaigns to sustain a global effort. Coordinate the efforts of all disease-oriented organisations working to prevent the rise of tobacco use, physical inactivity, and unhealthy diet that contribute to stroke, heart disease, and diabetes.

World Stroke Campaign and World Stroke Day (2015): Objectives are to raise awareness on the profound and universal impact of stroke on human life and suffering and increase understanding of the solutions that exist. Prevention is the most readily applicable and affordable part of knowledge. Key actions must be made to encourage healthy environments to support healthy behaviours. Translate knowledge into action. Trained disciplinary teams must be encouraged to develop expertise and translate evidence into practice. Establish simple but comprehensive stroke units. Stroke units have long proven their worth, even in their most basic form. Work towards building a healthcare system that responds to the needs of each individual living with the impact of stroke. Generate a movement that stimulates collective responsibility and action. Families, community-based groups, professional societies, national governments and the international community all need to support the delivery of programmes and services to all persons affected by stroke, as well as fight for better access to basic health services. Lifestyle modifications for the prevention of high BP are generally the initial steps in managing hypertension. High blood pressure (hypertension) puts extra strain on blood vessels. If untreated, over time this extra pressure can increase the risk of a heart attack, stroke and similar disease. Stress is one of the major causes for hypertension therefore it is necessary to learn to cope with stress. (E-medicine article: 2008). Hence in cases of high blood pressure, sufficient rest and relaxation are particularly important. Persons suffering from hypertension should ensure that they have sufficient sleep, recreational holiday and relaxing pastimes and avoid unrest and conflicts in everyday life. Education is the most important predictor of knowledge regarding risk factors of hypertension that has been increasing since the last decade. Health promotion seems essential, so it is essential to prevent this health problem. Thus the researcher felt the need for creating awareness on prevention of stroke among hypertensive patients.

CONCLUSIONS

The researcher acknowledges the fact that it is very important for the patients to know the risk factors of stroke. Failure to know the risk factors may lead them not to engage in prevention practices such as proper following of medication regimes, regular medical check-ups, change of lifestyles including cessation of smoking, stopping excessive alcohol intake, and avoiding sedentary life and poor diet.

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