

STROKE IN AFRICA: WHAT YOU NEED TO KNOW

Introduction

Stroke is a blood vessel-related disorder of the brain (cerebrovascular disease) that occurs when a blood vessel in the brain is ruptured or blocked. This causes little, or no oxygenated blood to be supplied to the brain, and results in the death of brain cells within minutes if not recognised and treated promptly.

A stroke is a serious medical emergency that should be treated immediately to avoid permanent brain damage.

Stroke often occurs acutely and depending on its severity results in chronic disability of public health impact in sub-Saharan Africa and globally.

A high percentage of stroke-related death and disability occur in low-and middle-income countries and African countries generally face considerable diagnostic and treatment challenges in tackling the condition.

In this blog post, you will learn about stroke in Africa; its burden, risk factors, symptoms and other relevant information that should help you to recognise and provide prompt assistance to anyone suffering from the condition.

Epidemiology of Stroke in Africa

In the past, knowledge about the burden of stroke in Africa and most especially sub-Saharan Africa was overshadowed by the several communicable diseases that are common in the region.

"Stroke can cause paralysis, and it's the largest cause of disability and death in the world," says Dr Seyi Roberts, a Consultant Neurologist and Medical Director at Royal Cross Medical Centre, Lagos, Nigeria.

According to a recent report ¹, research in the last 10 years or more now suggests that Africa could have up to 2-3 times greater rates of stroke occurrence and higher stroke commonness than in western Europe and the USA. Put in crude figure terms, stroke is as common as in 15 of every 1,000 Africans and the condition occurs in 3 of 1,000 African yearly with a crude death and disability rates of 80% and 87% respectively.

Although stroke can occur in anyone at any age, many Africans have a stroke within age 40–60 years, causing a loss of self-worth and productivity. "I have seen several young and productive patients end up becoming liabilities following a stroke due to being disabled and unable to be productive as before," Dr. Seyi Roberts explains.

80% of stroke survivors in Africa have some form of disability that may become a liability. ²

While significant progress in stroke care continues to be made in high-income countries, the same cannot be said to be true in sub-Saharan Africa and other low to middle-income countries due to several factors.

Additional research is needed into the epidemiology, genetics, prevention, care, and treatment outcomes in order to provide African health stakeholders with better understanding of how to prevent and manage stroke. ² This is important because stroke is a leading cause of death and disability in Africa, and the burden is expected to rise due to the ageing population and many other social determinant factors like poverty, low awareness of the disease, etc.

Risk Factors of stroke in Africa

Stroke is a critical disease that can affect anyone at any age, although it is more commonly seen in Africans aged 40 -60 years old.

Stroke is a critical disease and different conditions (risk factors) increase your chances of having a stroke. These are classifiable into two categories, namely:

1. Those you cannot change (Non-modifiable)

These are conditions or risk factors that occur naturally and cannot be changed by you. Included in this category are your:

- Sex (Stroke is commoner in women than men)
- Age
- Ethnicity or race (Ethnic/racial blacks have higher stroke occurrence and are more likely to die from a stroke than other ethnic/racial groups).
- Family health history/genetics

2. Those you can change (Modifiable)

These are health conditions that can be altered or changed to reduce your risk of having a stroke. The modifiable risk factors include the following:

- High blood pressure (Hypertension)
- Smoking/Vaping
- High cholesterol
- Heart disease
- Birth control pills (oral contraceptives)
- Obesity
- Diabetes
- High red blood cell count
- Excessive use of alcohol
- Use of illicit drugs
- Abnormal heart rhythm

What are the symptoms of stroke?

"Stroke is an emergency, and most people do not know when they have a stroke. It's important to know the symptoms of stroke to help save lives," says Dr. Roberts.

The common symptoms to quickly recognise in someone who is having a stroke are summarised in simple letters identified as B.E.F.A.S.T. These letters are made up from the initial letters of other words that describe the symptoms of stroke as indicated below.

B - BALANCE

- The person may suddenly have trouble with balance and coordination

E - EYES

- The person may complain of sudden blurred, double, or total loss of vision. This can occur in one or both eyes.

F - FACE

- Sudden pull of the face to one side may be noticed in the person. Asking the person to smile will show the pull clearly.

A - ARMS

- The person may complain or show evidence of weakness in one arm. If seen, ask the person to raise and hold both arms raised. Then check for which arm side drifts downward.

S - SPEECH

- The person cannot speak clearly or is hard to understand when speaking.

T - TIME

- If you notice any of the above symptoms in anyone, call the ambulance service where available or find means to get the person to a hospital immediately.

Other symptoms/sign to look out for, include:

- Complaint of sudden, severe headache
- Seizure (severe shaking of the body)
- Sudden confusion or loss of consciousness

Treatment and the challenges of stroke treatment in Africa

The details of the treatment of stroke in Africa will be covered in another blog but the challenges to the treatment and prevention of stroke will be covered here.

"In Africa, most people aren't aware they have a stroke. Sometimes, when they see signs of stroke in a person, they begin to administer herbal treatments and consult their spiritual heads for healing instead of visiting the nearest hospital for treatment. This makes it difficult to combat and treat strokes in Africa," Dr. Seyi Roberts explains.

According to various research and findings, some of the challenges of stroke treatment in Africa are more common than others, and they include the following:

- Limited access to healthcare
- Low awareness of the condition
- High-cost of treatment that is commonly paid out-of-pocket
- Lack of trained healthcare professionals in stroke treatment
- Limited access to rehabilitation services
- Poor nutrition
- Cultural beliefs and practices
- Lack of adequate research

Addressing these challenges is complex. But it's important to tackle them in order to reduce stroke burden and improve the outcomes of stroke survivors in sub-Saharan Africa.

How can the burden of stroke be reduced in Africa?

When you survive a stroke, it becomes a chronic and debilitating disease that should be tackled adequately because of its impact on your quality of life.

The reasons why stroke is rampant in Africa are due to many factors among which are, low health literacy generally, low awareness of the condition, poverty, unequal access to healthcare and limited healthcare personnel and facilities.

These factors greatly hinder the fight against stroke in Africa. If these factors aren't tackled comprehensively and strategically, they will advance the many serious public health issues that impact the growing and productive population in the future.

To tackle stroke in Africa, certain strategies should be adopted, and they include the following:

1. Prevention

The best way to tackle stroke is to prevent it through raising awareness of its risk factors, and reducing the chances of these risk factors leading to a stroke.

Risk factors like diabetes and obesity can be addressed early through lifestyle changes and medication use before they lead to a stroke. Prevention of risk factors is far cheaper and better than treatment of a stroke because it can be economically draining to treat a stroke relative to preventing the risk factors.

2. Adequate treatment

When a person has a stroke, it's vital to make available prompt and effective care or treatment within the first 4 hours of having the stroke. This can help reverse the impact of the stroke, minimize the damage caused, and increase the chances of survival or reasonable recovery for the patient.

3. Rehabilitation

There is a need for well-equipped rehabilitation centres to help stroke patients gain use of the disabled part of the body affected by stroke and also help patients learn to live with their disabilities in the promotion of a better quality of life.

4. Campaigns and awareness programmes

Policymakers and health authorities need to invest heavily in public health campaigns and awareness programmes to help raise awareness of stroke and its risk factors. This will help people to be more aware and ensure they know the right and immediate steps to take in case they or someone around them has a stroke.

5. Affordable treatment

Policymakers should allocate nation-wide resources that enable easy and affordable access to stroke treatment, prevention and rehabilitation resources to the general public. A plan should be put in place for financial support through social or universal health insurance or through direct subsidy of the cost of drugs and treatment of stroke patients at the point of care. Also, transportation and other accessibility support to primary healthcare centres in both urban and rural communities should be made available.

6. Support research on stroke

Better measures and improved outcomes for people with stroke will be attained through improved funding of research into epidemiology, prevention, treatment, and rehabilitation.

7. Train healthcare workers

Healthcare workers need to be well-trained and equipped to help address stroke incidence. Through proper training, they will ensure they are more aware of how to detect and manage stroke incidents. This training should be provided at all levels of the healthcare system, from primary healthcare centres to specialised stroke units across each country in Africa.

Implementing these strategies will reduce the burden of stroke in Africa considerably and also help improve the lives of survivors of stroke in Africa.

Frequently Asked Questions (FAQs)

- **What are the warning signs of stroke?**

"The reason many stroke patients end up being disabled is because they aren't able to detect the signs of stroke, which is one of the factors that contributes to the high prevalence of stroke in Africa. The sooner treatment is started, the better the outcome," says Dr. Seyi Roberts.

He further explained that the best and easiest way to identify the symptoms and signs of a stroke is through familiarisation with the acronym (abbreviation), B.E.F.A.S.T, as already detailed above.

- **Can stroke be prevented?**

"Yes, most strokes are preventable if only stroke patients had a better lifestyle. They would have been able to avert it," says Dr. Seyi Roberts.

To prevent strokes, you have to take the following steps:

- Educate yourself about the risk factors of stroke.
- Get regular evaluation by your doctor or nurse to know if you have one or more of the risk factors.
- If you have any of the risk factors, get advice from your healthcare provider on the best ways to reduce your risk.

By following the steps mentioned above, you can significantly reduce your risk of this very serious disease.

- **Can strokes be cured?**

"Sadly, there is no permanent cure for stroke at the moment, but there are effective treatments like the "thrombolysis" that must be administered between 1 and 4 hours after a stroke occurrence. The thrombolytic agent is administered through the veins or arteries to unblock blood vessels so blood can reach the brain and ensure stroke is reversed," Dr. Seyi explains.

Aside from thrombolysis, minimally invasive procedures are advised to stop a bleed in the brain or unblock a vessel responsible for a stroke. Additional surgical procedures may be needed to reduce the pressure on the brain. Some promising new treatments for long term stroke care are currently being researched, namely:

- Stem cell therapy
- Gene editing
- Brain-computer interfaces

- **How common is a stroke?**

The risk of stroke increases with age; after every 10 years of your life, your risk doubles after age 55.³ Please note that strokes can occur at any age, but older adults in Africa are at greater risk.

- **How long does a stroke last?**

Depending on the impact or severity of the stroke, it could last for a few minutes, several days, or years. The duration is also determined by the type of stroke.

- **Can stress cause strokes?**

Yes it can, stress can trigger or lead to a stroke. Here is how; when you are stressed, your heart rate and blood pressure tend to increase. Given the existence of certain underlying factors, these can lead to damage or blockage of your blood vessels and might result in a stroke.

Conclusion

Stroke is an acute disorder with long-term chronic impact if a patient survives the immediate consequences. Its burden, care and prevention poses considerable public health challenges in sub-Saharan Africa with significant socio-economic impact on individuals, families and communities.

Most stroke cases in the world occur in low- and middle-income nations. The ageing population, increasing occurrence of noncommunicable diseases, low economic status, low awareness and health literacy generally, and poor healthcare infrastructure and delivery systems are some of the reasons for the high burden of stroke in Africa.

Despite these challenges, several programmes and strategies can be implemented by public health stakeholders in sub-Saharan Africa in order to reduce the burden of stroke in respective countries.

Public policy makers should invest more in stroke research, training of healthcare staff, subsidisation of the cost of drugs and treatment, and improving the healthcare infrastructure generally. In addition, continuous awareness raising and educational campaigns are needed. All these and more would help the fight against stroke in Africa.

References:

1. Akinyemi RO, Ovbiagele B, Adeniji OA, Sarfo FS, Abd-Allah F, Adoukonou T, et al. Stroke in Africa: profile, progress, prospects and priorities. *Nat Rev Neurol*. 2021 Oct;17(10):634–56.
2. Kim J, Thayabaranathan T, Donnan GA, et al. Global Stroke Statistics 2019. *International Journal of Stroke*. 2020;15(8):819-838.
doi:10.1177/1747493020909545
3. ~~Google scholar [Internet]. [cited 2023 Oct 2]. Available from:~~
https://scholar.google.com/scholar_lookup?title=Global%20stroke%20statistics%202019&journal=Int.%20J.%20Stroke&doi=10.1177%2F1747493020909545&volume=15&pages=819-838&publication_year=2020&author=Kim%2CJ#d=gs_gabs&t=1695745978886&u=%23p%3DNGMKMGcTILQJ

4. CDC. Centers for Disease Control and Prevention. 2023 [cited 2023 Oct 2].
Know your risk for stroke | cdc. Gov. Available from:
https://www.cdc.gov/stroke/risk_factors.htm