

Stroke in Sierra Leone



WHY STUDY STROKE?

- Stroke is the second leading cause of adult death in Sub-Saharan Africa (SSA)¹.
- Globally, 90% of stroke burden is attributable to modifiable risk factors², however these risk factors vary greatly by region, age and ethnicity³.
- Local risk and stroke outcome data are essential to inform the development of stroke services.

THE STUDY

A prospective observational hospital based study⁴ of 385 strokes in Freetown, Sierra Leone carried out over 12 months by King's College London and College of Medicine and Allied Health Sciences, Sierra Leone.

WHO IS HAVING STROKE AND WHAT TYPE OF STROKES?

60%
were ischaemic strokes

22%
were primary intra-cerebral haemorrhage

3%
were subarachnoid haemorrhage

15%
were undetermined

Stroke is occurring in young, previously fully independent individuals. Our median age was

59 years

Haemorrhagic strokes compared to ischaemic strokes were **more severe**, occurred in **younger patients**, with **lower levels of educational attainment**

46%
of patients were the main breadwinner for their family



WHAT IS CAUSING STROKE?

The dominant modifiable risk factor for stroke is hypertension, occurring in 83% of stroke patients.

Hypertension	320 (83.1%)
Diabetes	62 (16.1%)
Dyslipidaemia	135 (35.1%)
Atrial Fibrillation	18 (4.7%)

WHAT IS THE WAY FORWARD?

- Sierra Leone Ministry of Health and Sanitation has recently ratified the strategic plan for Non Communicable Diseases 2020- 2025.
- The Strategic plan has a focus on stroke for the first time.
- The register data provides vital data to target primary prevention programmes for stroke.
- The plan describes the future development of stroke services in Sierra Leone for the first time. Sierra Leone aims to implement stroke unit based care at Connaught Hospital in 2021. From 2022-2025, the aim is to implement stroke unit based care across the country.

WHAT ARE THE OUTCOMES AFTER STROKE?

39% of patients died in hospital.

Half of the stroke patients (48%) **died within 90 days** of their stroke.

51% of patients suffered a complication from their stroke in hospital.

25% of patients were diagnosed with aspiration pneumonia.



¹ Vos T, Lim SS, Abbafati C, Abbas KM, Abbasi M, Abbasifard M, et al. Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet*. 2020;396(10258):1204-22.

² Feigin VL, Krishnamurthi R. Stroke is largely preventable across the globe: where to next? *The Lancet*. 2016;388(10046):733-4.

³ O'Donnell MJ, Chin SL, Rangarajan S, Xavier D, Liu L, Zhang H, et al. Global and regional effects of potentially modifiable risk factors associated with acute stroke in 32 countries (INTERSTROKE): a case-control study. *The Lancet*. 2016;388(10046):761-75.

⁴ Youkee D, Deen G, Barrett E, Fox-Rushby J, Johnson I, Langhorne P, et al. A Prospective Stroke Register in Sierra Leone: Demographics, Stroke Type, Stroke Care and Hospital Outcomes. *Front Neurol*. 2021;12:712060. <https://doi.org/10.3389/fneur.2021.712060>



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