

Exploring the use of verbal autopsy to determine causes of death: Findings from the CEPI-funded Nigeria Lassa Epidemiology (NiLE) study

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Introduction

Reliable mortality data are essential for shaping public health responses and disease control strategies. In Nigeria, the absence of comprehensive death registration systems and limited autopsy practices hinder accurate cause-of-death documentation. Verbal autopsy (VA), which involves interviewing relatives of deceased individuals to determine probable causes of death, presents a feasible alternative in low-resource settings. This study examines the use of VA in the NiLE study across three Nigerian states.

Methods

Conducted in Edo, Ondo, and Ebonyi states with 7,041 participants recruited and followed for at least two years. Verbal autopsies were conducted after participant deaths through structured interviews with family members knowledgeable about the condition of the deceased. Data on symptoms, underlying conditions, and healthcare-seeking behavior were collected using a standardized tool and analyzed descriptively to understand mortality patterns in these Lassa fever-endemic regions.

Results

Out of 110 deaths, only 77 verbal autopsy (VA) records were completed. Among these, 14 (18.1%) met the case definition of fever plus one other

symptom, though none were Lassa fever discharge cases. Most deaths (84.3%) occurred in individuals aged 41 and above. Common symptoms before death included fever (22.1%), headache (19.5%), and abdominal pain (11.7%). Only 32.4% sought hospital care before death. Hypertension and diabetes were frequently reported underlying conditions. Among the 77, 22 (28.6%) had only primary or no education, and just 2 (9.1%) of them accessed healthcare. Lower education and unemployment were linked to reduced healthcare utilization.

Conclusion

Conducting surgical autopsies in Lassa fever high-burden areas poses significant infection risks, especially in resource-limited settings. Verbal autopsy offers a safer, practical alternative for identifying likely Lassa-related deaths. Integrating verbal autopsy into routine mortality surveillance in Nigeria could improve death data accuracy and support evidence-based public health actions and targeted interventions in affected regions.