

## Commentary

Aging has become topical in most countries due to an increase in the number of people getting old,<sup>[1]</sup> and has been associated with changing epidemiologic pattern of diseases from infections to noncommunicable diseases.<sup>[1,2]</sup> Old age is a significant factor associated with increased risk of dying when admitted into hospital and awareness of common causes of death is therefore a key step to extend life and enhance healthy aging.

For the frail elderly patients, the hospital serves dual purposes, both as a place for therapeutic care and a place to die. In-hospital mortality is affected by several factors for which physicians and hospital might have no control over. These include patient age, sex, nature, and severity of presenting illness, comorbidity and socioeconomic ability.<sup>[3,4]</sup> This prospective study examined the causes of death among elderly patients (60 years and above) managed in a tertiary care hospital in Nigeria, between January 2005 and June 2007. Demographic data, duration of admission, diagnosis, and causes of death were recorded. Excluded were all brought-in dead.

A total of 1,298 deaths occurred during the study period, of which 297 occurred in patients 60 years and above with a crude death rate of 22.8%. This consisted of 59% males and 41% females. The mean age at death was  $68 \pm 9$  years (ranged 60-100 years) females  $69.7 \pm 8.7$  years and males  $68.1 \pm 9.8$  years ( $P=0.05$ ). The three most common diagnoses at death were stroke (19.8%), sepsis (16.5%), and lower respiratory tract disease (8.1%). Infectious diseases accounted for 38.2% of all diagnoses. The collective mean length of the hospital stay at death was  $6.8 \pm 8.6$  days (range: 15 minutes to 60 days) and 27.4% occurred within 24 hours of hospital arrival.

In advanced countries, the three leading causes of death in people 65 years and above are heart diseases, malignant neoplasm, and stroke.<sup>[5]</sup> In

this study, diseases of the neurologic system resulted in more deaths than any other systems, with stroke being the single most common cause. The finding of 21% stroke mortality in this study is most likely a tip of iceberg, as several cases of stroke in Africa rarely get to hospital before death. Plausible explanations for this include poor transportation system, limited access to healthcare, limited neurodiagnostic facility, deficient acute interventional therapy, dearth of medical experts, poor recognition of symptoms of stroke in the community, and continued use of spiritual, traditional and alternative healers.<sup>[6]</sup> Life style and dietary modifications, regular exercise, avoidance of smoking, keeping the BMI below 25 kg/m<sup>2</sup> with normal blood pressure, blood sugar, and lipids are proven preventive measures.

Sepsis/infections and diseases of the respiratory tract also resulted in a significant number of deaths in this series. Alteration in structure and functions of respiratory tract, falling immunity level associated with aging, poverty, high level of illiteracy, and poor sanitation are contributory. Improvement in the level of personal and community hygiene are established preventive measures.

The collective mean age at death in this study was  $68 \pm 9$  years. This is lower than the mean age from both developing and developed nations.<sup>[4]</sup> This is attributable to factors such as the degree of hospital specialization, patient's characteristics, severity of illness at the time of presentation, as well as financial constraint in a resource poor nation, where older citizens are solely dependent on their children and relatives for upkeep and settlement of health bills.<sup>[4]</sup> The standard of living and life expectancy are additional factors. Male deaths constituted 59% of mortality in this study with a lower mean age compared with females. Hospital deaths are more in older males than females and females tend to live longer than males.<sup>[5]</sup>

In conclusion, mortality amongst elderly patients in this hospital-based study appears high and efforts are needed to reduce this trend. The lack of postmortem reports to corroborate clinical diagnoses is an additional limiting factor, but the findings are relevant for health planning.

## References

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