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COVID -19 and the state of African neurology

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Expectations of Africa having high rates of infection and death from COVID-19 have, as yet, not materialised. At the time of writing, all 54 countries have officially reported COVID-19 cases; 123,724 people have tested positive for the disease and 3,668 people have died. The reasons for such low levels may be due, in part, to countries rapid responses: South Africa declared a national state of disaster and implemented a nationwide lockdown before even its first death was reported and likewise Uganda suspended all public gatherings before the country reported its first case. In Ethiopia—where the first case was reported March 13—the office of the Prime Minister announced that schools, sporting events, and public gatherings should be suspended for 15 days, on March 16. In Addis Ababa, on April 8, the Council of Ministers declared a 5-month long state of emergency.

In addition to the rapid and seemingly insightful implementation of strict containment measures, the continent's population demographics may have conferred some advantage: 3% of sub-Saharan Africa's population is aged over 65 years, and nearly half (43%) of the populations are age < 15 years. COVID-19 has, thus far, claimed most lives in patients above 70 years of age.
However, complacency over the effectiveness of lockdown measures across the continent might be premature. Worryingly, two thirds of the current total number of cases in Ethiopia was reported in the last 2 weeks, since the first case in March 13—suggesting perhaps that the country is now facing a growing health disaster. Furthermore, poor reporting, limited communication systems for both patients and health professionals, lack of surveillance, and testing facilities across the continent may also be contributing to low numbers recorded. Notably, registration rates of all deaths and causes remain incomplete in many African countries: precise estimates are difficult to obtain but coverage estimates of recorded deaths range from 5% in Mozambique, 16% in Zambia, 25% in Botswana and Ghana, and 67% in South Africa[1]. Additionally, COVID-19 cases may be confused with other infectious diseases—such as malaria, typhoid, HIV, and tuberculosis—resulting in further reporting delays and deficits.
Cultural issues, where patients with COVID-19 might be ostracised by communities and instead of seeking medical assistance will consult traditional, or voodoo practitioners, will further lead to under-reporting. Countries experience of pandemics and epidemics varies across Africa; such differences are likely to result in differences in preparedness—such as availability of testing and personal protective equipment. West African countries may be able raise a better response given their recent experiences with Ebola. East

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African countries have likewise gained crucial epidemic experience: cholera has affected the region repeatedly in past years.

Clinically, a considerable number of patients with COVID-19 have neurological symptoms as part of a clear, and now increasingly recognisable, presentation of their illness—these include headaches, myalgia, and an altered level of consciousness. Some patients with SARS-CoV-2 may present with symptoms indicating an acute stroke, epilepsy, encephalopathy, and demyelinating neuropathies, without the cough, fever or other respiratory problems that might give a clue to the underlying pathology. Diagnosing and then giving appropriate treatments to such patients is challenging,

and requires specialist neurological input which is grossly lacking.

Such well recognised deficiencies—few neurologists, limited imaging modalities, non-existent specialist diagnostic tests, for example electrophysiology and antibody screening—are, in the context of COVID-19, now being thrown into even sharper relief. A WHO report, published in 2004, found the ratio of neurologists to population to be 0.03 per 100,000 in Africa: in Europe the ratio is 4.84 per 100,000[2].

Finally, usual neurological clinical practices—as with other specialist services—have been disrupted as a result of the COVID-19 pandemic.

It would be a tragedy that COVID-19 was necessary to appreciate the dire shortage of neurological services in African countries but often only such emergencies can provoke change.

Ideally change should come now and not before the full force of the pandemic unfolds.

1. https://www.jstor.org/stable/pdf/20853272.pdf?refreqid=excelsior%3A30daf54df0602a74cd3c24290d616315
2. https://www.who.int/mental_health/neurology/neurogy_atlas_lr.pdf

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