Editorial

Long COVID-19: A Call for Action

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The optimism that heralded the decline in new COVID-19 cases following the several waves and the rapid deployment of newly developed vaccines has been somewhat dampened by the stark realization of the occurrence of post-COVID sequelae. The implication is that the real disease burden estimates must extend beyond the number of confirmed infections and additional appraisals based on modelling analyses taking into consideration unreported cases, and mortalities, to include the now apparent post-acute sequelae of COVID-19 (PASC). Between Jan 1, 2020, and June 3, 2022, approximately 257,637 confirmed COVID-19 infections were reported in Nigeria[1].

A modelling analysis showed that only 14·2% of SARS-CoV-2 infections in the African region were reported, implying by extension, that the total number of cases in Nigeria in the time period would be closer to 1.8 million, not accounting for asymptomatic infections[2]. Africa has been relatively spared of COVID-19 mortalities, with the total COVID-19 deaths in Nigeria placed at 3,144 (which translates to a case fatality rate of 1.24%)[1,3,4].

Nigeria has already experienced four previous waves of the COVID-19 pandemic, and there is evidence to suggest that new infections are ongoing within the communities, against the background of low vaccination rates in the country. All of which point to a large pool of undetected and undiagnosed infections within the Nigerian population.

Although initially considered to be primarily a respiratory infectious disease, it has become evident that COVID-19 is associated with multi-systemic, non-infectious complications that may result to severe organ dysfunction in the acute phase of illness[5]. Additionally, we also now know that COVID-19 extends beyond the acute phase of illness, with an occasional protracted course that is now loosely called long-COVID, or post-acute sequelae of COVID-19 (PASC)[6]. The estimated frequency of long-COVID symptoms (persisting beyond four weeks from the acute infection) is about 25%, but drops to about 10% after 12 weeks of COVID-19[7].

Koralnik and colleagues have reported persistence of PASC for up to one year after the initial diagnosis[8]. Long COVID-19 encompasses a spectrum of illnesses including persistence of the acute symptoms of SARS CoV-2 infection, the long-lasting effects of organ failures and critical care, and the post-acute sequelae directly attributable to either the immune-pathologic or direct viral effects of COVID-19[9,10]. This spectrum of COVID-19 illnesses is now categorized thus[7, 11]:

i. Acute COVID-19: the first 4 weeks of COVID-19
ii. Ongoing COVID-19: greater than 4 weeks, but less than 12 weeks duration
iii. Post-acute sequelae of COVID-19 (PASC): 12 weeks or more

Following extensive debates about the veracity of long COVID, it is now a *bona fide* clinical entity with distinct characteristics. The World Health Organization (WHO) has defined post COVID-19 as "*a condition that occurs in individuals with a history of probable or confirmed SARS CoV-2 infection, usually three months from the onset of COVID-19 with symptoms and that last for at least two months and cannot be explained by an alternative diagnosis*[7]".

While the majority of people infected with COVID-19 recover completely, some experience short- and long-term fatigue, insomnia, pain, shortness of breath, and cognitive dysfunction (such as confusion, forgetfulness, or a lack of mental focus or clarity, sometimes called 'brain fog')[9,10]. Psychological or neuropsychiatric symptoms have also been documented. Furthermore, post-COVID -19 can be injurious to multiple organ systems, including the kidneys, lungs, pancreas, and heart.[10]

The risk factors for developing long COVID-19 are not currently known, but are a subject of interest. Emerging data indicate that PASC occurs more frequently in women and the middle-aged, regardless of the severity of the initial infection[7]. A recent study found detectable SARS-CoV-2 spike antigens in the serum of up to 60% of PASC patients up to 12 months after diagnosis, but not in those who did not develop PASC following acute infection, indicating the presence of an active persistent SARSCoV-2 viral reservoir[12].

Recognition and a proactive approach to addressing PASC is essential for several reasons. Firstly, the physical and psychological impact of enduring apparently inexplicable symptoms which are under- recognized by physicians and for which a direct link to COVID-19 is often not apparent is potentially enormous. Secondly, there is virtually no specific evidence base to guide the best treatment for PASC, and the infrastructure, manpower and general health- systems support to manage PASC is virtually non- existent in hospitals. This is obviously exacerbated where health systems are struggling to recover from the impact of the pandemic on the already vulnerable structure in low and low-middle income countries (LMICs).

Furthermore, the prevailing weariness, disinformation, misinformation, and mistrust about COVID-19 may translate to hesitancy and a potential barrier to overtly seeking medical treatment even where there is a recognition of a temporal link between onset of symptoms and a COVID-19 infection.

Finally, the scientific community has an obligation to seek answers to pertinent questions that address gaps in knowledge about the pathogenesis, risk factors and treatment of PASC. For instance, is there an immune predisposition to developing PASC? Do currently available vaccines prevent or reduce the risk of developing PASC? Are there specific variants of SARS-CoV-2 with a predilection for PASC? Are there different PASC phenotypes and is there evidence for any genetic or gene -environment interactions that influence the expression? What are the best treatment approaches for PASC?

Given the potential enormity, challenges, and knowledge gaps with respect to long COVID, several actions are imperative. First and foremost, vaccination rates and coverage must be improved in Nigeria, where only 10.2% of the population is currently vaccinated [12]. It is also crucial to determine the true burden of post-COVID-19 in Nigeria and develop a data-driven national structure for post-COVID-19 care. Lastly, the establishment of multidisciplinary research collaborations linked to infrastructure and manpower development /capacity building for clinical care will provide a strong and sustainable foundation to provide long-term solutions for long COVID in Nigeria.

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