

High SARS-CoV-2 IgG seroprevalence among pregnant Cameroun women 14 months after the beginning of the pandemic

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March 31, 2022

Abstract

We found a seroprevalence of anti-SARS-CoV-2 IgG of 77% in a population of Cameroonian pregnant women sampled 14 months after the start of the COVID-19 pandemic. This high exposure to the virus requires a rethinking of vaccine priorities in African countries. The value of vaccination against COVID-19 should be considered at the local level based on seroprevalence studies, but the expanded programme of vaccination interrupted during the pandemic should be resumed urgently.

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The two years following the COVID-19 pandemic triggered by the appearance of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in Wuhan (China) have seen the virus evolve, producing variants that have driven successive waves of infection. The total number of COVID-19 cases worldwide is now close to 430,000,000, with over 5,900,000 deaths.

There were very few reported cases of COVID-19 on the African continent during the early stages of the pandemic, especially in sub-Saharan Africa. But modelling studies indicated that some African countries were highly vulnerable and not well equipped to respond to an outbreak¹. The World Health Organisation (WHO) and its partners launched the COVID-19 Access Tool Accelerator (ACT) in April 2020 to address this inequality by developing effective tools to manage COVID-19 in middle-and-low income countries (MLIC).

However, Africa seemed to remain more resistant to the coronavirus than other continents, perhaps because of the warm climate, young population, or the immune history of its peoples. The dynamics of the disease in Africa surprised the world, thwarting many predictions, despite the lack of medical facilities, the poor

adherence to or impossibility of social distancing and overcrowded cities. It soon became clear that this under-reporting was probably due to a lack of screening, and that SARS-CoV-2 was emerging in many African countries just as it was in the rest of the world. Nevertheless, clinical reports of cases of the disease were scarce, as were unexplained deaths that could be attributed to COVID-19.

Two years into the pandemic the global epidemiological map of Africa does not seem to have changed, except for northern African countries (<https://coronavirus.jhu.edu/map.html>). The current published number of COVID-19 cases/10⁶inhabitants varies from 3.10⁻³ in the Central African Democratic Republic to 4.3.10⁻⁴ in Chad, and 4.10⁻³ in Cameroon. The comparable indicators in developed countries are: 0.3 in France, 0.23 in the USA, 0.19 in Italy, and 0.08 in Brazil (all x 10⁻³). The number of reported cases per inhabitant is almost 100 times smaller in sub-Saharan Africa than in France, Italy or the US.

We estimated the prevalence of SARS-CoV-2 in Cameroon by testing for specific antibodies against the virus (SARS-CoV-2 IgG II Quant Alinity i Abbott)². We collected serum samples from 292 pregnant women being cared for on a maternity ward (Health Care Center, Centre d'Animation Sociale et Sanitaire) in Yaoundé. This maternity hospital performs about 4500 deliveries per year. The women were 16 to 47 years old (mean: 26.8; median: 26). Three quarters of them (225; 77%) tested positive (6 to 1081 Binding Arbitrary Units per ml) although none of them had been vaccinated against COVID; their antibody titers were not correlated with their age.

The high seroprevalence in unvaccinated women mirrors the upsurge in COVID-19 cases, most of which are asymptomatic or paucisymptomatic. This suggests that the virus was already actively circulating in this area by the first half of 2021. The first cases of COVID-19 in Cameroon were reported in early March 2020 (Ministry of Public Health Cameroon: COVID, 2021. Available at: <http://COVID-19.minsante.cm/>) and the virus had spread so well that prevalence studies showed that the anti-SARS-CoV-2 IgG seroprevalence was 24% in June-August 2020, just 8 months after the emergence of the virus. The figures are the same as those reported for a neighboring country in October/November, 2020³ and in the general populations of other African countries⁴, after tests on healthy blood donors⁵, health workers exposed to COVID-19 patients⁶. Thus Africa was not spared by the pandemic and the current under-reporting of cases is due to a lack of screening, little or no increase in clinical cases suggesting COVID-19, and little or no increase in reports of unexplained deaths.

The two-dose vaccination rate does not exceed 11% in many African countries, but the question of whether or not to immunise African people against covid 19 remains unanswered as long as a universal vaccine against SARS CoV 2 is unavailable⁷. Should what has not been done since the beginning of the pandemic still be attempted in view of the the active circulation of the virus, as indicated by the low overall COVID-19 morbidity and mortality, and the high seroprevalence?

We believe that vaccination policies should be redefined, given the delay and the evidence of active virus propagation in Africa. The target populations for vaccination could be more precisely defined, based on regular seroprevalence surveys of the general population. It is no longer a question of mass vaccination of a population that is already naturally immune to SARS-CoV-2, but rather of targeting at-risk groups such as the elderly, people suffering from co-morbidities, and healthcare workers. Last, the really urgent need is to resume the Expanded Programme on Immunization as soon as possible, because the COVID-19 pandemic has dramatically worsened the implementation of « classical » immunisation campaigns in many countries⁸. This is where human and financial resources should now be directed.

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CONFLICT OF INTEREST

none of the authors declare any conflict of interest

ACKNOWLEDGEMENT

The English text was edited by Dr Owen Parkes.