LESSONS LEARNT AND CHALLENGES AHEAD AFTER THE COVID-19 PANDEMIC

Africa after COVID-19: insights from popular epidemiology

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If tropical medicine started off in India and en route to the Indies, it completed its doctorate in Africa. And in so doing, it became one of the fundamental components of our new understanding of international health, to be later established through the World Health Organisation (1948) and deployed across increasingly discrete, but no less real, health boundaries [1]. The concept of global health, as described by Alma Ata ("Health for All in 2000", September 19782), overwhelmed by the neo-liberal tide and revived with great fervour in 2016 with the Sustainable Development Goals (2030 Agenda), aims to overcome the huge limitations of the old international health approach. However, COVID-19 has exposed the shortcomings of such an assumption.

Back in the "African laboratory" once again?

Beyond its global expansion, COVID-19 has created the most acute, widespread and consequential pandemic awareness since the explosion of AIDS in the 1980s and 1990s.

Some of the characteristic features of the spread of COVID-19 across the African subcontinent support the case for its use as an observational sociological laboratory, resulting in a kind of great “spontaneous historical experiment”. Consequently, the pandemic has evolved in a unique way in Africa, with an “epidemiological inversion” of expert forecasts and the geography of other diseases.

The application of international measures (WHO) based on separating populations, in a context of highly deficient national health systems (NHS), produces the “laboratory conditions”: we can surmise that local knowledge –diverse in nature– has been the resource most widely employed by the majority of populations.

However, whilst the reference to an “African laboratory” may worry those who have so often denounced the treatment of African populations as guinea pigs, its application, even an approximate, metaphorical application, also faces methodological obstacles, of which I will mention two.

The challenge of an “anthropology without ethnography”: the same measures used to tackle COVID-19 that would create the “laboratory effect” have also greatly impeded field work, which is essential when discussing local knowledge and the populations’ healthcare practices. On the other hand, in Africa, “it never rains but it pours”: COVID-19 appears alongside other significant health risks among African populations, the difficulty of checking cases, the relative reliability of statistical data, as well as the typically low specificity of local treatments can paint a confusing epidemiological picture.

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These difficulties are common in health research in Africa, so they should not preclude the necessary analysis, however, they should be recognised in order to optimise the proposed comparison and to gauge the lessons learned. In order to do so, we plan to contextualise COVID-19 indicators in Africa, then explore the evidence of the use of local knowledge by following different strategies.

Originality and “classicism” of COVID-19: comparing pandemics

Both the scientific and informative discussion on COVID-19 has been projected onto a kind of ideal type of pandemic that allows us to associate it with other previous events (cholera, the plague, 1918 flu…). The convergences and divergences revealed by this “construction of disease” (an approach highly regarded by medical anthropology) are revealing.

As the image of plagues suggests, COVID-19 shows an intense planetary spread, a high degree of contagion and a widespread impact. In less than two years, it is estimated that around 225 million cases have been registered worldwide, impacting on practically every country and social group. This is infinitely more than the comparatively trivial diseases that triggered the five international health emergencies prior to COVID-19 (PHEIC: influenza A, polio, Zika, Ebola), not to mention other previous alarms prior to the adoption of the International Health Regulations by the WHO in 2006 (such as SARS or bird flu). You have to go back much further in time to find a pandemic with an explosive development of this kind, to the infamous 1918 “Spanish flu”, which was much more widespread.

The virulence and lethality of COVID-19 ranges from low to medium. Notwithstanding this, in the most heavily affected areas, and particularly in wealthy countries, it has resulted in what is an unacceptable level of deaths for public opinion. For instance, the first reliable statistics for 2020 suggest an increase of 2 points (‰) in the death rate in countries such as Italy and Spain. At any rate, a total of 4.7 million deaths [3] in 21 months is very significant. This toll is far higher than the 409,000 deaths from malaria recorded by the WHO in 2019 or even the 740,000 deaths in 2000. It also exceeds deaths from flu, estimated at between 300,000 and 650,000 deaths in 2017, for a huge total number of cases (the 2009 H1N1 scare, the offspring of the 1918 “villain”, resulted in just 20,000 confirmed deaths for possibly 1,500 M infected people). Admittedly, this mortality rate is far below that of HIV-AIDS over 40 years (38 million of 79 million cases: a staggering 48%); however, over the past decade, thanks to the widespread use of inexpensive anti-retrovirals, the mortality prognosis of the disease has plummeted. For example, in Botswana –with high but controversial infection rates– 5,000 deaths were recorded in 2019 per 380,000 cases, while in Europe the life expectancy of people living with HIV-AIDS is over 70 years old. Outbreaks of other deadly epidemics, such as Ebola in 2014, were much less contagious (11,323 deaths from 28,646 cases, according to the WHO).

Certainly, these numbers may account for the high level of social panic and widespread fear that has accompanied COVID-19 across the world, including in the most developed countries with the most effective medical care. The realisation that the prognosis is much worse in vulnerable groups (the sick and the elderly, though with the notable exception of children, which differentiates COVID-19 from other classical pandemics, such as cholera) and the identification of most of the victims –a feature of many epidemics– has not succeeded in containing this fear. Panic is undoubtedly one of the defining features of the pandemic imaginary: in this case, multiplied by the novel effect of the mass media paradoxically engaged in the task of education and protection.

This health fear far outweighs the not inconsiderable effect of international emergencies and contrasts with the indifference to metabolic pandemics. Invisibilized by being transmitted by behavioral vectors, often judged benevolent when not positive in the social context, the latter affect many more people and account for most of the risk factor for fatal outcome worldwide. Overweight, which affected 1.9 billion people in 2016, as well as obesity –650 million– are undoubtedly associated with the main causes of death. Or what about diabetes, with 1.5 million deaths out of 420 million cases in 2019, and to which should be added deaths related to hyperglycemia (2.2 million in 2012 and increasing)? Or

arterial hypertension (AT), with at least 1.1 billion affected and a minimum of 7.5 million associable deaths per year? Much remains to be learned about these selective fears.

> The health fear and social panic triggered by COVID-19 contrasts with the indifference to metabolic pandemics

In any case, only HIV-AIDS has generated a comparable alarm, but very different, because it has rarely been presented as an indiscriminate threat like COVID-19. HIV-AIDS infection, much more progressive, has been associated with behavior, particularly sexual promiscuity (not to mention the famous 4H of the 80s [4]), with which sick people are held responsible and reassured the “community of healthy people and healthy habits”.

A strange pandemic phenomenon: the “epidemiological reversal” in Africa

The pandemic first spread from east to west through the warmer regions, spreading much more slowly in a southerly (and far northerly) direction, except in Latin America. This pattern led to a delay in its emergence in Africa in comparison to China and Europe. During this time, epidemiology and development cooperation announced a health catastrophe in sub-Saharan Africa, in principle with the good intentions of raising awareness and trying to reduce the collateral damage. However, some scholars from the field of African studies, including myself [5], sought to counter this prediction on the basis of, firstly, what was known at the time about SARS-Cov2 and other comparable infectious agents, and, secondly, on the basis of our knowledge of the black-African subcontinent and its people.

Health records have stubbornly validated the Africanist prediction, but global health strategists have refused to run Occam’s razor over their protocols. To paraphrase Umberto Eco, we could say that the mainstream has also become apocalyptic.

Calming factors

The African demographics, with a younger population pyramid than in any other major world region (an average of over 60% of the population is under the age of 25), do not foretell an extensive transmission of the disease, or at least one without serious consequences, given its very much attenuated effect on young people, the group most heavily represented in the public space, and even lesser effect on children, among whom the virus seems to be less easily transmitted. In addition, the culture of age (and the socioeconomic conditions that determine it) not only tends to uphold the authority of older people, but also excludes their gathering in specialised centres, thus greatly reducing the danger of mass transmission: we must not forget that nursing homes became veritable death traps in many European regions, such as Spain.

Another factor to take into account is that the flow of people from outside the continent is much smaller than in Eurasia, and is further minimised thanks to the aforementioned time lapse in the expansion of COVID-19 on the continent, which allowed for an early closure of a large part of extra-African borders.

Lastly, it is plausible to posit that the tropical ecosystem (not only because of high temperatures) could prove unfavourable to the flu "family", including SARS-CoV2; some scholars have appealed –without much support– for the study of these conditions, including possible resistance due to the reaction to previous infections [6], which was perhaps enhanced or catalysed by Africa's high microbiological biodiversity (high exposure to infectious diseases)..

Apocalyptic factors

The factors in favour of declaring disaster were based on the structural conditions of African societies but these do not in themselves determine a pandemic explosion. Firstly, it was claimed there was a high prevalence of contributory diseases; but this would only be relevant if there were a large-scale, rapid transmission among at-risk groups, which has only been the case in South Africa. Secondly, and perhaps most emphatically, there were concerns about the weakness of the health system, but this undoubtedly relates to the fact that the saturation of hospitals and referral centres is already commonplace, and would not lead to the same degree of social collapse as in Europe.

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Lastly, the financial and socio-cultural challenges in implementing the recommended measures were and still are being voiced; however, this argument is ambiguous, given that the negative effects of the measures could outweigh the benefits, and that the already common alternative mechanisms of social and health "bricolage", which we bring together under the conceptual umbrella of local knowledge, are also emerging. Therefore, the apocalyptic factors did not seem to outweigh the "calming" ones.

Empiria. Fighting the curse of the topics

Indicators have shown that, as COVID-19 is an undifferentiated airborne infection, it has not displayed the global pattern predicted by forecasts that a priori focused on vulnerable groups: neither poverty, nor the weakness of the health system, nor low health indicators, nor even stereotypes of an "unhealthy climate" have been automatic determinants.

The result is an unexpected geography of health, where the healthiest regions coincide with

those that once prompted the lifting of health frontiers from rich countries: Africa, India, and South-East Asia… As regards sub-Saharan Africa, I present a comparative sample where the featured countries could easily be interchanged (only South Africa has rates comparable to Europe).

	Total population	Registered cases of Covid-19	Deaths registered by Covid-19	Morbidity: % of infected population	Mortality: deaths due to Covid-19 per 1000 inhabitants	Lethality: % of deaths with respect to the number of infected people	Absolute number of deaths (last recorded date, generally 2018 for African countries)	General mortality rate as per thousand	Income per capita in thousands of dollars *
Africa	1,300M	8M	0.2M	0.63	0.16	0.25		10.5	
Europe	630M	50M	1M	8.20	1.60	0.20		10.5	
South Africa	60M	2.85M	85,000	5.00	1.40	0.29	546,000	9.5	6,600
Senegal		73,400	1,800	0.45	0.10	0.25	90,000	5.7	1,400
Madagascar	27M	44,000	1,000	0.17	0.04	0.22	160,000	6.0	465
				%	/1000	/1000			

Italy rpc 33,000 / Italy let. 0.28 / TM 10.5 (for 2020 it is estimated at 12.60 [in Spain, 8.80>10.4]

Own table. Data source: Worldometer, consulted on 14 September 2021. The mortality rate in Europe has only been updated as far as 2020 (where a rise of two percentage points can be noted in some countries; the data for African countries is from 2018).

* In Spain, in recent years, income per capita is around 30,000 dollars, while in the USA it exceeds 65,000 or in Germany 45,000; data from 2019.

The differences are evident. Suffice it here to remark on a couple of things. With these mortality rates, further contextualised in their respective health scenarios, for most African countries, the concern is very low and does not justify a serious disruption of daily life. Collaboration with the international system could be modified (extra-African border closures yes, controlled intra-African border closures, properly justified occasional lockdowns, flexible social distancing). This local adaptation of international measures could also be extended to nation-wide vaccination, which is disproportionate, costly (not only because of the number of doses) and not very convincing as a form of mass protection given the variation of strains. Selective and dynamic vaccination would seem more effective and sustainable.

The second point relates to the relatively small difference in case fatality, despite the huge disparity in the resources of the health system. It is a sobering figure to consider and research. Many people have argued that these data may underestimate the prevalence of the disease, due to the lack of means to register contacts and properly certify deaths. However, these disqualifications have not been supported by statistical “sampling”, they have not “constructed” alternative data, and they have remained conjectures. Some observations suggest that they should be rejected, unless such data emerge (which could happen when reliable data on the variation in total mortality become available; however, they are currently only available up to 2018): despite their clear inadequacy, hospitals have only collapsed at certain moments; governments have reasons to put forward higher “projections” of impact, rather than downward ones, in the hope of channelling more

resources. There is no doubt that the statistics are imprecise, but, as for other diseases, and for the time being, there does not seem to be sufficient reason to assume significantly different levels from those provided by the official data.

However… Cassandra is winning

Despite all this, these differential provisions have been and are ignored, and no specific measures are taken, but rather the same measures are implemented in Africa as in the rest of the world.

For reasons of cost and logistics (as in much of Europe, moreover), of the two models accompanying the pharmacological strategy (research into vaccines), the more archaic –and anachronistic- the scheme of generic separation of populations (lockdowns, border closures, quarantines, etc.) has been applied, rather than that of selective separation of sick people (active tracing). The problem is that separation measures are not feasible in African societies, with only a few, specific exceptions (Rwanda).

The catastrophist apathy towards Africa is the result of a combination of scientific complacency, racism, goodwill and mass media. Tellingly, the decree of the international measures sparked a new Cassandrism, this time among or from the voices that had condemned the epidemiology's apocalyptic forecast: now they predict negative health effects, increased social violence, authoritarian tendencies, financial collapse…

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In any case, for large sections of society, the great majority, effective action against the pandemic, and against measures against the pandemic, remains in the hands of the population itself. Given the limited availability of private scientific medicine and its worldwide retreat from COVID-19, the most obvious and widely used resources have fallen into the category of local knowledge. This "freedom" from obligations, combined with low indicators, has paradoxically allowed African health authorities to direct their efforts towards a reflection on their own system, without the pressure of the healthcare maelstrom unleashed in Europe.

News on local knowledge… and not just about health

How do we draw on this local knowledge, presumed to be the protagonist in the locked-down Africa? I propose three complementary types of survey which, although they do not allow us to establish consensual empirical proof, do point to avenues of research that tend to be dismissed (at the expense of the health of the populations) [7].

The first survey refers to the continuation of the perspective (also ignored) that anthropology (with scholars such as Paul Richards and Mats Utas) took on the Ebola epidemic (2014-2016), and which resorted to the concept of *people science*. Although this concept only refers to a portion of local knowledge (the popular application of modern science), there are many indications of its validity for COVID-19.

The second survey engages with the best-known form of TCM research, long before it came to the attention of the WHO, by focusing on traditional African remedies that have emerged during the crisis beyond the local level. Despite the WHO's inexplicable slowness in assessing them, and the international media's unjustified rejection of some cases (such as the Malagasy Covid-organics), teams of African researchers are endorsing their use and the benefits of studying them [8]. We should remember that a very high percentage of current drugs continue to have their origin in traditional pharmacopoeias, as did milestones in the pharmaceutical industry such as aspirin, penicillin or artemisinin.

The third survey focuses on the role of local connections (referring to kinship, age and initiation groups, secret societies, clubs, etc.) that can indirectly inform us of therapeutic functions, following another classic approach in anthropology (from De Martino to Turner), seldom taken into account in the healthcare field except by a few mental health specialists (ethnopsychiatry). These are fundamental connections when talking about community health. This survey area is currently the most difficult to analyse at the grassroots level, but we have some important developments at the institutional level. One strand talks about of the importance of forms of social solidarity: although conflict has increased across the continent over the last decade (Mozambique, Ethiopia, Sahel, etc.), it does not seem to have done so during the pandemic, which indicates positive levels of self-management of the tension produced by the lockdowns.

With the relative exception of South Africa, and unlike in Europe and Latin America, the pandemic in Africa, far from embarrassing national healthcare system managers, appears to be strengthening them. Across the continent, governments of impoverished nations (such as Senegal, Rwanda or even Zimbabwe, not just the usual South Africa) are demanding the production and research of vaccines or to channel part of their healthcare cooperation towards the study of traditional remedies (a request that would coincide, for example, with some Chinese interests). This is supported by the limited figures presented by the study of COVID-19 and their early acceptance of the measures imposed by the international community.

> During the pandemic, many of the health systems on the African continent reacted more quickly than in Europe. Post-COVID-19 Africa seems to fully confirm its promise of growth and global presence

While it is too early to say for sure, post-COVID-19 Africa seems to fully confirm its promise

of growth and global presence. The elasticity of populations, built on local knowledge, to both the epidemic and the epidemiological recommendations, has left their governments in a strong position to negotiate.

In a way, the ball is now in their court, but above all in that of the international community (academia, politicians, experts, etc.): ignorant and vulnerable populations are managing the plague without demanding an unreasonable effort from their governments. This kind of bottom-up governance holds lessons both on the necessary diversity of global health and on the need to radically revise global models of sovereignty.

REFERENCES

1 — See De la Flor, José Luis (2020) *Securitización de la salud y medicalización de las relaciones Internacionales. Una genealogia africana del poder medico global*, doctoral thesis, Autonomous University of Madrid.
2 — See the statement of the International Conference on Primary Health Care, Alma-Ata, URSS, September 6-12, 1978. Available online.
3 — All data on COVID-19 is taken from Worldometers, adjusted (more or less) to 14 September 2021.
4 — The 4Hs referred to 'Homosexuality, Heroin, Hemophilia and Haiti'. Ignorance contributed to hasty and erroneous epidemiological readings in the 1980s, skewed by an ideology that marginalized the different, that moralized the disease.
5 — Roca, Albert (2020). "Oportunidades del COVID-19 para África y viceversa. Pistas de investigación", published in *es África* (esafrica.es) on 20 April 2020. Available online.
6 — See opinion of M. Diop, "En Afrique, «le virus s'est retrouvé au contact d'une population déjà immunisée»", published on September 18, 2020 in Radio France Internationale (RFI). Available online.
7 — This article is complemented by another one currently being prepared (forecast autumn 2021) which focuses on the analysis of this underground local knowledge.
8 — See, for example, Attah Alfred Francis et al. (2021). "Therapeutic Potentials of Antiviral Plants Used in Traditional African Medicine With COVID-19 in Focus: A Nigerian Perspective", in *Frontiers in Pharmacology*, v. 12. Available online.

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