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Pharmaceutical messianism and the COVID-19 pandemic

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A R T I C L E   I N F O

Keywords:
COVID-19
Pandemics
Pharmaceutical messianism
Pharmaceutical anthropology
Politics of health

A B S T R A C T

As part of their populist performances during disease outbreaks, public officials and politicians tend to offer 'miracle cures' or 'wonder drugs' that can supposedly treat or prevent the disease in question. This article analyzes contemporary instances of what we call 'pharmaceutical messianism' and proposes four characteristics for this phenomenon, namely, that it: (1) emerges during times of extraordinary health crisis; (2) builds on pre-existing knowledge, practices, and sentiments; (3) borrows from medical, often heterodox, authority; and (4) involves accessible, affordable, and/or familiar substances. Demonstrating the analytic value of our framework, we present three case studies, constructed using academic and journalistic sources, during the COVID-19 pandemic: hydroxychloroquine in France, ivermectin in the Philippines, and Covid-Organics in Madagascar. We conclude by identifying some implications of our findings on public health and avenues for future research.

1. Introduction

Throughout the COVID-19 pandemic, one common response among world leaders and politicians has been to promote pharmaceuticals and other substances that can supposedly treat or prevent the viral disease—from hydroxychloroquine (Casarees and Magalhaes, 2021) to ivermectin (Turkia, 2021); from herbal remedies in Madagascar and Venezuela (Moleiro, 2021; Nordling, 2020) to cow dung and urine in India (RFI, 2021). Scholars have identified these promises of a 'miracle cure' or 'wonder drug' as part of the 'simplification of the pandemic' that constitutes the 'medical populism' of political actors (Lasco, 2020).

Such promises are nothing new, arguably harking back to medieval times when rulers were regarded as supreme beings with healing powers (Murray et al., 2016). Contemporary world history is likewise rife with instances of state leaders or politicians advocating for miracle cures—especially for conditions that have no known cure. Most prominently, prior to the advent of antiretroviral therapy (ART), various politicians from the hardest-hit Global South countries promoted a range of supposed cures against HIV/AIDS (e.g. Cassidy, 2009; Obadare and Okeke, 2011).

This article interrogates how these instances of what we call 'pharmaceutical messianism' emerged during the COVID-19 pandemic. Why did those politicians end up endorsing those specific cures? What were the antecedents before their endorsement, and who were the other actors involved? In other words, what were the conditions of possibility that paved the way for a certain substance to be held up as panacea for COVID-19?

We begin by revisiting the literature on the politics of epidemics, and how pharmaceuticals have figured in them. Drawing on these bodies of work, we propose four characteristics of pharmaceutical messianism, namely, that it: (1) emerges during times of extraordinary crisis; (2) builds on pre-existing knowledge, practices, and sentiments; (3) borrows from medical, often heterodox, authority; and (4) involves accessible, affordable, and/or familiar substances. We then offer three case studies to illustrate manifestations of pharmaceutical messianism representing a range of economic, cultural, and geographic contexts during the COVID-19 pandemic. Finally, we reflect on the implications of this phenomenon for public health and health communications, particularly in times of health crises.

2. The ‘political efficacy’ of miracle cures

Epidemics and other health crises magnify people’s need to concretize illness by tapping into their entrenched fears and anxieties for survival (Taylor, 2019). Amid prevailing perceptions that health and state authorities “lack the capacity to resolve all medical challenges”...
A framework for pharmaceutical messianism

3. Pharmaceutical messianism arises during moments of extraordinary crisis

Not all health emergencies provide fertile ground for pharmaceutical messianism: This phenomenon occurs specifically during unprecedented or extraordinary crises, such as those enumerated earlier, when even scientific institutions are at a loss for answers. Scrutinizing Donald Trump’s presidency, Schneiker describes how politicians can portray themselves as saviors with “exceptional qualities that allow [them] to … save [their] followers from an emergency” (2020, p. 863). Part of this ‘messianic’ performance, Schneiker continues, is claiming to have the solution to this emergency. In the context of pharmaceutical messianism, this quick and easy fix comes in the form of a wonder drug, which easily gains public acceptance no matter the level of evidence as to its benefits because of medical populism’s tendency to disregard ‘elitist’ scientific expertise (Lasco, 2020). As this drug gains traction in a given political milieu, demand for it grows alongside demands for its legalization and provision, via methods discernible in most other populist performances of crisis (Moffitt, 2015)—for instance, through highly publicized distributions or dramatic performances of contradicting health experts to highlight its supposed benefits.

3.2. Pharmaceutical messianism builds on pre-existing knowledge, practices, and sentiments

Pharmaceutical messianism does not exist in a vacuum: It must come from somewhere and/or build upon something. This can be in the form of existing biomedical knowledge, like drugs that are already used for existing diseases, but which are now being forwarded as solutions to the current crisis (e.g. quinine during the Russian and Spanish flu pandemics [Freckelton, 2020]). It can also be in the form of alternative or heterodox knowledge, like the use of food cures derived from traditional medical (or quasi-medical) ideas and practices (Bittar, 2020). Or, as with the HIV pandemic, pharmaceutical messianism need not even be rooted on pre-existing knowledge; it can flourish just by feeding upon pre-existing public sentiment. Often, a miracle cure taps upon the zeitgeist, whether it be the interminable undercurrent of anti-colonial sentiment, like in Ghana and Cameroon (Cassidy, 2009; Lachenal, 2017), or public desperation for an immediate solution, as in Nigeria (Obadare and Okeke, 2011). What is crucial to this characteristic is that...
miracle cures do not achieve instant popularity; rather, they: a) usually already exist in some prior form before the pivotal act of alteration and redefinition, and/or b) occur in the ripe environment at the right time in history. 

3.3. Pharmaceutical messianism borrows from medical, often heterodox, authorities

Pharmaceutical messianism borrows from epistemological authority—medical, scientific, or otherwise. Often, this authority can be characterized as medical heterodoxy, which means it is not so much a categorical rejection of intellectual expertise as it is an argument for ‘counter-knowledge’ or an ‘objective counter-expertise’ (Vil -Anttila, 2018, p. 358). As demonstrated by some of the early HIV cures (Obadare and Okeke, 2011), medical heterodoxy is not always an outright invalidation of orthodox biomedicine: More than a statement of what should be, it is a proposal for what could be. However, by categorizing pharmaceutical messianism as a decidedly medical-populist phenomenon, we invoke medical heterodoxy to pertain specifically to individuals who push for ‘counter-knowledge’. We follow Casarosa and Magalhães in labeling these individuals ‘alt scientists’, but use that label as an umbrella term to include licensed physicians, politician-doctors, elected officials, celebrities, and conspiracy-theorists—people ‘who publicly advance scientific claims at a crossroads between partial evidence, pseudo-science, and conspiracy theories’ (2021, p. 199)—while also acknowledging the possibility that certain cures can have the support of a country’s public health establishment. In any case, for any substance to gain widespread popularity, it has to originate from someone of considerable influence, or must at least have the backing of such authority.

3.4. Pharmaceutical messianism involves accessible, affordable, and/or familiar substances

Two considerations underlie this characteristic. First, professional healthcare, including prescription pharmaceuticals, still remains inaccessible to most people—financially, logistically, politically. Second, unprecedented health crises, as mentioned earlier, are moments of great uncertainty for scientific institutions, who are faced with a problem for which they have no ready solution—and consequently, moments of great desperation for ordinary people, who become more willing to try out any promising cure (Taylor, 2019; Freckelton, 2020). Pharmaceutical messianism taps into this uncertainty and desperation, while simultaneously subverting the inequitable status quo, by presenting the public with an accessible, affordable, and/or readily available cure. This can therefore be a drug sold cheaply in pharmacies to treat other diseases, but which political discourse now presents as a potential cure for the crisis; a substance that provides an alternative to expensive, hospital-based care; an experimental or unproven treatment railroaded for widespread use and/or rendered available extensively because of political pressures; or even a prescription drug that garners ‘emergency use authorization’ or is now allowed to be sold over-the-counter by those same pressures.

4. Illustrative examples

We present three case studies depicting pharmaceutical messianism during the COVID-19 pandemic. Like Lasco and Curato (2019), we employ a descriptive approach: Without adjudicating on the scientific efficacy of the concerned substances, we plot their emergence as populist tropes based on our aforementioned framework and alongside their respective outbreak narratives. The narrative reconstructions for each substance were derived from academic sources (e.g. journal articles) and targeted online searches of journalistic material (e.g. major periodicals for each country, government releases), which may not conform to scholarly language but nonetheless portray elements of pharmaceutical messianism in their vocabulary.

After an online survey of the miracle cures that have been forwarded by world leaders, we selected three such cures based on geographic diversity. The first example depicts the rise of hydroxychloroquine in France at the start of the pandemic in 2020. The second, set a year later, tackles the popularity of ivermectin in the Philippines amid a deadly surge in early 2021. Finally, the third example shows how Covid-Organics in Madagascar not only tapped into the urgent need for a cure, but also into longstanding sociocultural sentiments that arguably trace their origins to the HIV pandemic in Africa. Sources from France and Madagascar that were in French were translated using Google Translate. Table 1 summarizes these findings according to our framework.

4.1. Hydroxychloroquine in France

Long a mainstay of treatment for malaria, lupus, and rheumatoid arthritis, hydroxychloroquine came to prominence in France in March 2020, when the whole world was still at a loss with regards to treating the illness. By then, disease clusters were beginning to overwhelm the local healthcare system (e.g. Le Point.fr, 2020). When the administration of President Emmanuel Macron finally enacted a nationwide lockdown on March 17, the country had already tallied over 6600 COVID-19 cases, including 148 fatalities (Rose and Lough, 2020).

During this time, the established physician Didier Raoult pioneered the push for hydroxychloroquine in his country. Raoult co-founded IUH-Méditerranée Infection, the university hospital institute in Marseilles that served as his research base (Sayare, 2020). Relevant to the pandemic, his earlier investigations on hydroxychloroquine’s curative potential for fatal illnesses like Q fever essentially revolutionized treatment regimens. But Raoult was also a divisive figure known for “assailing orthodoxy” (Sayare, 2020). Alongside his contributions to microbiology and infectious diseases, he had compared epidemic modellers to “charlatans” (Mary, 2012) and repeatedly clashed with the Parisian medical community (Campion, 2020). In fact, his endorsement of hydroxychloroquine was grounded partly on his criticism of the country’s academic institutions as being run by bureaucratic “methodology maniacs” with no sense of urgency in using the widely available and easily manufactured drug for COVID-19 (Berlivet and Lévy, 2020, pp. 528–529). As evidenced by his glowing approval rating in a March 2020 opinion poll (Forêt and Bénis, 2020), this combination of scientific credibility and a rebellious, outsider persona probably endeared him to the public. Besides his authoritative medical background lending credence to his claims, Raoult also epitomized the “caring physician” fighting to quickly bring a cure to those in need (Berlivet and Lévy, 2020, pp. 528–529)—and one who was resisting “the tyranny of the medical elite” (p. 527).

However, Raoult did not originate the idea of hydroxychloroquine as a COVID-19 cure. Between January to February 2020, limited data out of China already laid the groundwork for the use of hydroxychloroquine, including an in vitro study by Yao et al. (2020) and a multicenter expert consensus recommending chloroquine—hydroxychloroquine’s more toxic analogue—for all cases of COVID-19 (Multicenter Collaboration Group, 2020). A 2005 animal study demonstrating chloroquine’s curative potential for the present disease (Sayare, 2020).

Based on those data, Raoult began his own clinical trial. On YouTube at the end of February 2020, he cited the Chinese expert consensus in calling COVID-19 an easily treatable infection (IHU-Méditerranée-Infection, 2020). After he announced that the IHU-Méditerranée Infection would test and treat anyone who came, people turned up in “winding, single-file lines, like pilgrims” (Sayare, 2020). On the eve of the national lockdown, Raoult reported the results of his trial via YouTube, claiming a “100 percent cure rate” for hydroxychloroquine against...
COVID-19 (Sayare, 2020). The study, published four days later in a peer-reviewed journal (Gautret et al., 2020), has since been questioned for its lack of scientific rigor, including by the very medical society that expounded its release (Berlivet and Lowy, 2020).

At the time of publication, however, Raoult’s findings swiftly gained traction across French society, including in supportive pockets of the medical community (Trouillard, 2020). Doctors started prescribing hydroxychloroquine, as shown by the staggering spike in prescriptions received by pharmacies nationwide, sparking fears of a shortage for COVID-19. The study, published four days later in a leading French medical journal (Lancet, 2020), was criticized by an academic circle as the experimental design was lacking in a randomized controlled trial (Sciama, 2020).

The push for hydroxychloroquine that emerged during this time originated not from a single individual, but from different voices in the medical sector, best exemplified by the physician’s alliance Concerned Doctors and Citizens of the Philippines (Hofileña, 2021). Amid the country’s worst surge thus far, health facilities operated well beyond capacity and ran out of resources rapidly (Tomacruz, 2021). A number of Filipinos, including influential public doctors, started calling for the use of hydroxychloroquine (Hofileña, 2021). This unprecedented doomsday scenario, coupled with a sluggish vaccination campaign that had started only earlier that month, contextualizes the desperate atmosphere that prompted many Filipinos to search for alternative means of protection—and which led them specifically to ivermectin (Hofileña, 2021).

The push for ivermectin that emerged during this time originated not from a single individual, but from different voices in the medical sector, best exemplified by the physician’s alliance Concerned Doctors and Citizens of the Philippines. Its founder, Dr. Allan Landrito—described by media outlets as the drug’s most vocal proponent—even started self-importing and compounding the drug, and had sold the unregulated drug soon found its way to treatment protocols and public conversation across Europe, Asia, and the Americas.

By March 2021, the global hype over the drug had reached a point where both the WHO (2021a) and European Medicines Agency (2021) had already publicly advised against using it for COVID-19. That same month, however, the Philippines experienced a critical upsurge in cases, with single-day tallies exceeding the 10,000 mark for the first time, forcing the government to re-impose the strictest form of lockdown in the capital region of Metro Manila (Magsambol, 2021a). Amid the country’s worst surge thus far, health facilities operated well beyond capacity and ran out of resources rapidly (Tomacruz, 2021), turned away by successive hospitals, patients and their families sought help through their social media feeds, which now resembled literal ‘obituary walls’ (Tomacruz and Magsambol, 2021). This unprecedented doomsday scenario, coupled with a sluggish vaccination campaign that had started only earlier that month, contextualizes the desperate atmosphere that prompted many Filipinos to search for alternative means of protection—and which led them specifically to ivermectin (Hofileña, 2021).

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Table 1

| Summary of three cases. | FRANCE | PHILIPPINES | MADAGASCAR |
|------------------------|--------|------------|------------|
| **Panacea** | Hydroxychloroquine | Ivermectin surge of March 2021 | Covid-Organics start of COVID-19 pandemic |
| **Moment of extraordinary crisis** | Start of COVID-19 pandemic | - human and animal anti-parasitic - limited, early studies supporting its use against COVID-19 - already a COVID-19 miracle cure in many countries for the past year |
| **Pre-existing foundation** | - treatment for diseases like malaria and lupus - early data from China supporting its use for COVID-19 | - core substance (Artemesia) used for malaria treatment - rooted in traditional medicine - represented pro-African, anti-Western/colonial sentiments |
| **Pioneering medical/heterodox authority** | Dr. Didier Raoult (representing IHU-Méditerranée Infection) | "Concerned Doctors and Citizens of the Philippines"; physicians like Dr. Benigno Agbayani and Dr. Allan Landrito |
| **Accessible quality** | - cheaply sold in pharmacies - available for free in Raoult’s hospital | - cheaply sold in pharmacies (Initially for veterinary and later for human use) - distributed for free by politicians |
| **Consequential outcome** | - influenced use in countries like USA and Brazil - disproven by newer trial data and subsequently banned in the country | - Philippine FDA allowed compassionate use. - still popular, despite lack of evidence - influenced use in other African countries - production of new variant with support from WHO |

Ivermectin, a common human and veterinary anti-parasitic, entered the COVID-19 discourse around the same time as hydroxychloroquine, through an Australian in vitro study published in April 2020 that demonstrated its inhibitory effects against SARS-CoV-2, the pandemic’s causative agent (Caly et al., 2020). As Turkia (2021) catalogued, the drug soon found its way to treatment protocols and public conversation across Europe, Asia, and the Americas.

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citizens alike from clamoring for and consuming the drug.

For one, despite this call to wait for trial-generated evidence, and even as the Department of Health (DOH) warned against the legal repercussions of distributing and promoting ivermectin without a permit (Magsambol, 2021c), the FDA somehow went ahead and approved the unregulated use of the drug to one hospital on the basis of ‘compassionate use’ (Cabico, 2021), and by May, had granted the same permission to five more hospitals (Galvez, 2021) — creating the perception that the regulatory body had caved to mounting popular and political pressure (Mercado, 2021a). In late April, two congressmen personally distributed the drug to their constituents for free, with one of them saying they could no longer adhere to the ‘inflexible bureaucracy’ of research trials and regulatory approval (Mercado, 2021b). On this issue, the Justice Department took a similarly non-committal stance and literally left the decision to sanction the congressmen to police officers (who, thus far, have predictably chosen not to do so) (Buon, 2021). And while not outright endorsing the drug himself, President Rodrigo Duterte ordered regulators to facilitate local clinical trials for ivermectin, in an equivocal show of ambivalence (Deiparine, 2021). These incidences of inaction and inconsistency from the country’s highest authorities can be considered instrumental in emboldening pro-ivermectin factions to continue championing the drug openly, to the point that when the expert group behind the Philippine COVID-19 CPG declared the drug as officially ‘lacking sufficient evidence’ for efficacy, certain lawmakers even questioned this expert consensus in a congressional hearing (Magsambol, 2021d).

So far, the global evidence on ivermectin’s benefits for COVID-19 remains lacking; what was widely considered the most reliable study — the Tanzanian experience, Richey et al. (2021) framed this ‘unscientific’, multi-country acceptance of Covid-Organics as a continuation of ‘South-South humanitarianism’: The cure, in this case, was but part of the ongoing narrative of ‘marginalized’ and ‘neglected’ Global South countries ostensibly turning to each other for help amid continuing colonialism from the Global North, which had historically exploited and oppressed the African people. All these pan-African sentiments that emerged in this ‘climate of deep distrust of Western medical science’ (Nordling, 2020) were then magnified and reinforced by local media, which also helped fuel resentment against the cure’s critics (e.g. WHO) by repeating — and solidifying — the stand of its advocates, no matter how unfounded (e.g. Rajoelina dismissing the associated censure by the WHO) by repeating — and solidifying — the stand of its advocates, no matter how unfounded (e.g. Rajoelina dismissing the associated censure as “consipicy” to “denigrate Africa as a continent … unable to find its own cure”) (Atabong, 2020, p. 4).

To date, there is no conclusive evidence of Covid-Organics’ efficacy against COVID-19 (see Nie et al., 2021). Yet, the cure has endured in Madagascar, to the extent that a new variation has been approved for the market one year after the original (Mandimbiosa, 2021). The clamor for it was also so intense, its critics had to back down and become more amenable to exploring its therapeutic potential through clinical trials. For instance, the WHO even provided ‘technical support’ for the trial on the new variant, dubbed CVO+ (WHO, 2021b); while at one point, the African Union (2020) entertained a similar collaboration with the country. Even with the advent of vaccinations in 2021, Rajoelina has kept pushing for his miracle cure: During the first quarter of the year, amid a deadly second wave of infections, the president went on record to say that the vaccines ‘had too many side effects’ and that he would still trust in Covid-Organics (Verneau, 2021).

Though also driven by heterodox authority (i.e. Rajoelina), the popularity of Covid-Organics was informed mainly by preexisting cultural notions of a ‘trustworthy’ cure, despite the cure’s novel and unproven nature. As such, it belongs to the continuum of miracle cures that have sprouted in Africa since the early years of HIV/AIDS. In this example, we glimpse how, synergistically, the lingering wounds of colonialism, prevailing trust in local medical traditions, and distrust in Western biomedicine can allow a wonder drug to thrive in the modern public consciousness.

5. Final reflections

Our article demonstrates three cases of pharmaceutical messianism,
each showing the medical-populist nature of this phenomenon. In the absence of definitive cures during critical junctures of the COVID-19 pandemic, hydroxychloroquine, ivermectin, and Covid-Organics—substances backed by heterodox authority and rooted in existing scientific or traditional knowledge—filled the void, becoming miracle cures in their respective countries. This concluding section outlines three points of reflection and maps out the future research agenda.

First, it is important to acknowledge the transnational character of pharmaceutical messianism. Our examples show a pattern of miracle cures transcending country boundaries bidirectionally (i.e. countries either adopting a cure already in use elsewhere or influencing other countries to adopt the same). Raoult pushed for hydroxychloroquine based on new data from China, but the drug’s popularity in France also bolstered its subsequent use in countries like the United States and Brazil (Casaroas and Magalhaes, 2021). Ivermectin in the Philippines was clearly legitimized from the outside-in, the drug already a COVID-19 ‘cure’ in many countries by then, while the opposite held true for Covid-Organics, which was quickly embraced by Madagascar’s African neighbors. One possibility of preventing this phenomenon from thriving, then, is for state and health authorities to look at what has taken root elsewhere—at the miracle cures already being touted abroad, or even just within isolated pockets of the country—and to orient anticipatory communication efforts accordingly. This is undoubtedly a limited measure: Among other considerations, it assumes remarkable foresight and the benefit of time on the part of those responsible for making preventive decisions, as well as a sympathetic political establishment. This also means that, given the ideal circumstances, this kind of straightforward, assertive, evidence-based health communication (Frecelton, 2020) may prove the most effective anticipatory tool against pharmaceutical messianism, whether as grassroots campaigns or even social-media information drives.

Second, all three examples highlight the need to safeguard the independence of regulatory agencies that are almost always on the receiving end of the politicization of pharmaceuticals—and whose decisions can lead to the erosion of public trust in scientific institutions. As a medical-populist phenomenon, pharmaceutical messianism has the possibility to wane, but its effects on health communication and policy can be lasting, especially as it thrives partly on the mobilization of alt-science networks in the digital sphere (Casaroas and Magalhaes, 2021). In diverting public trust to a miracle cure, for instance, it may well engender mistrust on public health-sanctioned interventions like vaccines (Bertin et al., 2020). While vaccine hesitancy has been implicated in people’s decisions to pursue alternatives, the converse can also be true—the existence of such alternatives triggering vaccine hesitancy. As shown by the case of ivermectin in the Philippines, as well as the ongoing HIV pandemic in Africa (Amon, 2008), the lack of equitable access to vaccines and antiretrovirals can encourage people to embrace proven but far more accessible alternatives.

Finally, what determines a miracle cure’s staying power—or its diminution to irrelevance? As our examples demonstrate, scientific evidence is one influence. Hydroxychloroquine lost traction precisely because trial-generated data refuted its use early in the pandemic’s course (RECOVERY, 2020). At the same time, however, empirical evidence can be insufficient in the face of more compelling factors: Even without corroborating data, and even with strong pushback from public health institutions, demand for ivermectin has endured in the Philippines, likely because of the country’s protracted COVID-19 surge. Moreover, the relative ease of championing and extending expertise in this digital age of populist resurgences (Brehaker, 2020, p. 5) can lead to public confusion on which practices are truly supported by scientific evidence and consensus. Thus, further exploration of how ‘expertise’ is mediated in online and offline spaces; how it informs ‘infodemics’ of fake news and how these can be addressed, is imperative (see Rodrigues and Xu, 2020; Van der Linden et al., 2020). In this vein, future researches, hopefully including ethnographic studies, should also explore other settings where the touted cures were surveyed, as well as other such substances, likewise figured in populist performances and popular practices. The recurrent and inevitable nature of pharmaceutical messianism signals an as-yet-unfulfilled challenge to recognize its logic, understand its contexts, and, in doing so, contribute to mitigating its consequences.

Credit author statement

Gideon Lasco: Conceptualisation, Methodology, Formal analysis, Writing – review & editing. Vincen Gregory Yu Methodology, Formal analysis, Data curation, Writing – original draft, Writing – review & editing

Funding statement

No funding was received for this research.

Ethics

No ethics approval was necessary for this research.

Declaration of competing interest

The authors declare no conflicts of interest.

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