PATHOGENS AND GLOBAL HEALTH
2023, VOL. 117, NO. 6, 525–526
https://doi.org/10.1080/20477724.2023.2232593

Molnupiravir as the COVID-19 panacea: false beliefs in low- and middle-income countries

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KEYWORDS COVID-19; antiviral; molnupiravir; drug control; drug dispense

COVID-19 has led to a skyrocketing demand for advanced pharmaceutical interventions, primarily antiviral drugs and vaccines. In terms of vaccinations, literature has shown that receiving a full two-dose immunization with some vaccines offer only sporadic defense against symptomatic illness. Even though a booster could significantly enhance protection, it rapidly deteriorates over time [1]. There are still questions about the safety and efficacy of some medications, such as molnupiravir, which are used in conjunction with other treatments. In the early stages of the COVID-19 pandemic, molnupiravir was one of the first drugs officially acknowledged to significantly reduce the risk of hospitalization and death in adults with mild to moderate COVID-19 symptoms [2]. There is a lack of long-term safety data for this treatment, which is expected given that this is a rapid medical breakthrough. However, a trial has recently found that molnupiravir is not more effective than a placebo at reducing the risk of death and hospitalization [3].

Globally, there has been a surge in molnupiravir overuse cases because lots of people are obsessed with the drug and because of extreme fear of COVID-19 [4]. Remdesivir, molnupiravir, and favipiravir are authorized by pharmaceutical regulatory authorities of many countries for emergency COVID-19 treatment, yet the availability and accessibility of these drugs in LMICs vary widely depending on factors, including regulatory approval, pricing, and supply chain logistics. There is currently a global inequity in antiviral distributions, and people in low- and middle-income countries are unable to afford such advanced drugs as nirmatrelvir/ritonavir (Paxlovid®) [5]. In Vietnam, molnupiravir has been licensed accordingly to WHO guidelines for mild-to-moderate COVID-19 patients (800 mg orally, twice a day for five consecutive days), along a drug safety monitoring program. Molnupiravir is preferred to other antiretroviral agents because it can be used orally for outpatients with reasonable cost and a short treatment time. The Health Ministry even further simplified access to the drug when they permitted drug stores and pharmacies to dispense molnupiravir if patients tested positive for COVID-19 regardless of PCR or rapid testing [6].

Because of these upsides, molnupiravir has become widely overused in Vietnam, despite the fact that the Emergency Use Authorization (EUA) has originally made it very clear that only licensed physicians, advanced registered nurse practitioners, and physician assistants are authorized to prescribe. As its popularity increased, the sales of molnupiravir among pharmacies, online retailers, and black markets grew rapidly. Thailand and Vietnam both had online black markets where illegal and counterfeit drugs were sold [7]. Patients mistakenly believed molnupiravir will cure COVID-19 and used it frequently even where no medical intervention is needed. Because of this, drug resistance and the emergence of novel strains of SARS-CoV-2 progressed much more quickly. Additionally, Vietnamese people turned to traditional herbal medicine to treat a wide range of diseases, including COVID-19, which further exacerbated the situation, but there was a dearth of data on the effectiveness and safety of combining molnupiravir with these remedies [8].

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Molnupiravir affects viral genetics by triggering RNA mutagenesis through SARS-CoV-2 RNA-dependent RNA polymerase. It reduces viral RNA levels in patients and prevents replication, but it also triggers serious side effects or even death in some people [8]. This has been seen in India, where Balram Bhargava – director of Indian Council of Medical Research – in a joint statement with other health experts warned about the rampant, irrational, and overuse of the pills among Indians in 2022 [9]. Because of high demand, the drugs have been mass-produced all over the world, resulting in a dramatic reduction in price, meaning that more and more people have access to molnupiravir than ever before because of regulatory loopholes and pharmaceutical company incentives [4].

Patients are often unclear on when and how to take molnupiravir because of a lack of health educational campaigns in many countries regarding antiviral COVID-19 treatment. Patients usually feel panic after testing positive, and misunderstand that their condition will worsen without molnupiravir treatment. To combat the spread of false information, official information hubs and helplines should be established and work 24/7. On the other hand, open access to molnupiravir results in an unequal global distribution of COVID-19 antivirals [4]. According to data from Duke University, high-income nations have purchased the majority of available supply. There may not be enough supplies accessible in some LMICs, making it ineffective to distribute the drug to pharmacies. In order to effectively contend with the challenges posed by COVID-19, it is imperative to earnestly confront the conspicuous disparity between the supply and demand dynamics observed across a diverse array of bioproducts [10].

In conclusion, molnupiravir is not a panacea. Indiscriminate dispensing and use of the medication could have major negative impact on our society, such as side effects, drug resistance, the emergence of new strains, and unequal access to COVID-19 medication. Consequently, it is now time for global health authorities to take action and closely govern the purchase of COVID-19 antiviral drugs.

Acknowledgements

No one other than the listed authors contributed to this study.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

No funding was received for this study.

Authors' contribution

NHT and NKQ were mainly responsible for formulating the study idea and design. All authors wrote a preliminary draft, NHT and NKQ then critically revised the whole article. All authors approved the final version of the manuscript under the supervision of NHT.

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