

# COVID-19 Pandemic as “Curate’s Egg” on Human Immunodeficiency Virus Infection: A Commentary

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Tsegaye Melaku <sup>1,2</sup>  
Desta Assefa<sup>1</sup>

<sup>1</sup>School of Pharmacy, Institute of Health, Jimma University, Jimma, Ethiopia; <sup>2</sup>Jimma Medical Center, Jimma University, Jimma, Ethiopia

**Abstract:** It is a high time not to sideline human immunodeficiency virus (HIV) response during the 2019 coronavirus disease (COVID-19) crisis. COVID-19 will affect the decade’s hard-earned gains from HIV care delivery and response. At the same time, it could be an important time for the COVID-19 containment response to help minimize the occurrence of a new infection. Sexual contact is the main transmission ways in HIV dynamics. However, COVID-19 prevention and control strategies such as movement restrictions, physical and social distancing will reduce exposure to such kinds of risk behaviors. Those containment strategies, including stringent infection prevention and control at health facilities, may minimize transmission of HIV infection and will reduce the incidence of new HIV infection. While recognizing the immense challenges of the COVID-19 pandemic, efforts should be made by governments and international organizations to maintain the response to HIV and to ensure that the progress made against HIV is not lost. In addition, it is very crucial to undertake further researches on the status of new HIV infection during the COVID-19.

**Keywords:** COVID-19, human immunodeficiency virus, public health interventions, physical distancing

## Commentary

Wuhan City, the capital of China’s Hubei province, announced an outbreak of respiratory infection of unknown cause in late December 2019. Following this declaration, on 30 January the World Health Organization declared a Public Health Emergency of International concern on Coronavirus Disease 2019 (COVID-19).<sup>1</sup> Since then, the COVID-19 pandemic has become an ongoing public health epidemic that poses a major threat to people, especially those living with chronic diseases such as people living with human immunodeficiency virus (HIV). Approximately two-fifths (13.4 million) of the 37.9 million people living with HIV worldwide are unable to receive HIV medication to keep them healthy during the COVID-19 pandemic.<sup>2</sup> The pandemic disrupts the treatment and prevention continuum of HIV. When it spreads, poorer nations and those with higher rates of HIV, disconnected from the access to HIV care and treatment.<sup>3</sup>

COVID-19, like HIV/AIDS, has a disproportionate effect on those already marginalized. So far, elderly people and people with existing health problems like diabetes, hypertension has been particularly hard hit by COVID-19.<sup>4</sup> Study findings and experience to date indicate that those with compromised immune systems may be affected more seriously and may need more intensive care.<sup>5,6</sup>

Governments around the world have responded at various rates by implementing public health measures to address the rapid transmission of COVID-19

Correspondence: Tsegaye Melaku  
Jimma University, P.O. Box: 378, Jimma,  
Ethiopia  
Tel +251 913765609  
Email tsegayemlk@yahoo.com

into populations. These include international and domestic travel restrictions accompanied by strengthened border controls; major scale-up of testing and tracing; promotion of daily hand washing or sanitation of physical and/or social distances; and, in some situations, declaration of emergency states followed by curfews and full lock-downs.<sup>7</sup> Some of the strategies to counter COVID-19 will affect the continuity of HIV treatment and care at the HIV clinic. COVID-19 lockdown has also had an effect on other health systems in various African countries. For example, in South Africa, 13% of individuals living with chronic illness have lost access to regular drugs they need. Similarly, in Zimbabwe, about 19% of people with HIV were unable to receive refills for antiretroviral therapy (ART).<sup>3</sup>

The stringent public health measures (such as travel restrictions, complete lockdown, physical and social distancing) taken to limit the COVID-19 epidemic will also have a positive impact on preventing the new infection of HIV. This can be more taken into account for high-risk individuals and occupations, such as sex workers (commercial and non-commercial) and those individuals working on long-distance transport services. Since the beginning of the HIV/AIDS epidemic, sex workers especially in developing countries have been one of the groups most vulnerable to HIV infection due to their large numbers and rapid change of sexual partners and have been considered a core group for HIV transmission.<sup>8</sup> Overall HIV prevalence among female sex workers reaches 12%. In the general population of women aged 15–49 years, the prevalence of HIV among female sex workers was 13 times the overall HIV prevalence. Besides, in bringing HIV infection to the general population, men who have both commercial and non-commercial sex partners (regular partners) play a major role. Early the COVID-19 outbreak across the globe government closed all non-essential goods and service providers including any kind of bars, hotels, brothels, sex dens, and night clubs. These will pose financial difficulties and loss of jobs, especially for commercial sex workers. However, those interventions which will limit exposure and promote physical distancing will have a positive impact on preventing new HIV transmission.

Transport is known to be a “high-risk” occupation. The transport sector is commonly regarded as a major vector in the spread and transmission of HIV/AIDS.<sup>8,9</sup> This is more common for truck drivers and their assistants, individuals

who earn living transporting goods throughout the country and across national boundaries along major transport corridors.<sup>10,11</sup> The prevalence of HIV among those individuals reaches up to 40%.<sup>12</sup> Long-distance truck drivers have gained a reputation as a “risk group” because of their sexual networks along road transport corridors, frequently linked to long periods away from home.<sup>13</sup> This is mainly due to two possible reasons. First, the movement of people through transport routes and improvements in transport efficiency allow HIV to spread between areas of high and low prevalence. Second, The sexual conduct of employees in the transport sector and the populations that interact with them, such as sex workers, may pose a high risk of contracting or transmitting HIV.<sup>14</sup> Multiple reports showed that around 30% of the clientele of sex workers is made up of long-distance truck drivers. Similarly, people living in the vicinity truck stops along major road corridors tend to have a greater incidence of HIV than the general population.<sup>12,15</sup> Due to the COVID-19 pandemic containment strategies such as physical/social distancing, movement restriction, and/or complete lockdown, the probability of new HIV infection from such kinds of risky behavior will decrease. However, this is an important research area that needs specific detailed information and analysis.

Therefore, the COVID-19 pandemic is considered as a “curate’s egg” on human immunodeficiency virus infection. Even though the negative impact of the pandemic is considered to be huge, its containment response will minimize the transmission of HIV from sexual contact and is expected to reduce the incidence of HIV infection.

HIV itself increases the risk of contracting the COVID-19. People living with HIV will not easily get access to their to follow up on the schedule due to fear of contracting the disease and travel restrictions. The pandemic containment strategies and response will affect commercial sex workers who exchange sex for money in terms of income of daily living. However, international and domestic travel restrictions will reduce the opportunities for sexual contact exposure. In place, where movement is permissible, still due to physical distancing the risk to engagement into sexual activities expected to be minimal.

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## Author Contributions

Both authors made substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; agreed to submit to the current journal; gave final approval of the version to be published; and agree to be accountable for all aspects of the work.

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