

HIV- A hidden pandemic burdening healthcare globally

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Abstract

HIV is a global burden causing mortality and morbidity, we write to highlight the constant HIV incidence, its misdiagnosis and associated factors causing lack of eradication despite being an actively targeted disease worldwide utilizing US \$20-29 billion per year. From the pandemics aggravating immunosuppression to the revolution of the world through increased practice of homosexuality, multiple partners and drug abuse, major concern of HIV is more than ever.

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To the Editor,

Human Immunodeficiency Virus (HIV) is a pandemic between the pandemics, a global entity threatening the entire world. Despite 40 years of combating this illness the cases are still on the surge. According to the Joint United Nations Programme on HIV/AIDS, 38.4 million people were living with HIV in 2021, with 1.5 million newly infected and 650,000 dying, a slight decrease from 1.7 million new infections and 690,000 deaths in 2019. HIV is a retrovirus that primarily infects CD4+ immune cells, HIV1 being the most common strain. The Acquired Immunodeficiency Syndrome (AIDS) is caused by HIV in its end stage. Its transmission occurs through the exchange of bodily fluids, sexual contact, mother to the fetus, breast feeding, and sharing syringes. Among the population, sex workers and their clients, homosexual men, people who inject drugs, transgenders and their sexual partners accounted for 70% of HIV infections globally in 2021 along with young women aged 15 to 24. (1,2)

Global numbers conceal regional differences. East and southern Africa continue to be the center of the pandemic, accounting for 54% of all HIV-infected people and 43% of incident HIV infections and deaths. Asia and the Pacific have the second highest burden with India being the world's third-largest HIV epidemic with 65,000 new cases in 2019. A state in India's northeast, Mizoram has the second-highest AIDS death rate at 23.34 per 100,000 people. Despite the effort worldwide, HIV incidence has not decreased; little accomplishment has been observed in Central Asia, Eastern Europe and the Middle East. Moreover, amongst the high-income countries The United States remains at the top with 37,881 new HIV infections reported in 2018, with regional differences. The South had the highest rate of new infections reporting to be twice that of the Midwest, having the lowest. The rate among African Americans showed twice the number than Hispanics and eight times that of Caucasians.(1,3)

HIV is a global burden causing mortality and morbidity, we write to highlight the constant HIV incidence, its misdiagnosis and associated factors causing lack of eradication despite being an actively targeted disease worldwide utilizing US \$20-29 billion per year. From the pandemics aggravating immunosuppression to the revolution of the world through increased practice of homosexuality, multiple partners and drug abuse, major concern of HIV is more than ever.

The COVID-19 and monkeypox pandemics also hampered HIV progress due to the shift of focus and resources. According to a Lancet global health study, HIV deaths in low and middle-income countries are expected to rise by 10% over the next five years due to the disturbance caused by the pandemic. The highest impact was calculated to be interruptions in antiretroviral therapy, poor testing and screening strategies, lack of access to hospitals owing to rising fear, reduced capabilities of the health system due to an overwhelming demand for patient care, and financial instability (4,5). A study done in Italy showed newly diagnosed HIV cases in pre and post COVID-19 era having a significant decline in newly diagnosed cases attributed to reduction in checkup of HIV patients or hospital visits being replaced by telemedicine. It also revealed 51 subjects out of which 19 were diagnosed pre-COVID and 31 subjects during COVID-19 era. Those with HIV were either older population or at their early stages diagnosed previously. COVID-19 led to decrease in the number of new cases possibly due to social distancing. Various countries faced shortage of antiretrovirals due to restricted trade and safety restrictions imposed. Other factors being, common symptoms among COVID and HIV patients leading to confounding effects for the underdiagnosis of HIV conditions that could have led to acute infection or leading AIDS defining illness. (5)

We also want to emphasize on the contrasting causative agents of the disease in developed versus developing countries showing the issue in our approach to eliminate HIV through one single method, which might not be sufficient. Rise of aids in developed countries such as The United States is mainly due to premarital or unprotected intercourse, common practice of sex workers, clubs and homosexuality, taboo of sharing HIV status with your partner and increased alcohol intake ultimately clouding decision making whereas in developing countries particularly Pakistan which as of June 2019 shows, out of 165,000 cases only 24,331 cases were registered with the National Aids Control Program (NACP), majority of these cases were found in Punjab and Sindh along with a second grade emergency outbreak of HIV in Larkana district. Target causes identified were different than the United States including needle transmission, unsterilized surgical instruments, limited testing and antiretroviral therapy drugs, unawareness amongst rural class, lack of protective intercourse, mother to child transmission, undiagnosed cases due to limited healthcare facilities and social stigma (6).

Healthcare system and governing authorities need to stress on the steps to be taken against HIV eradication. In the absence of any curable treatment, there is an urgent need to raise the community's awareness through campaigns and social media. Rehabilitation centers should be improved to handle drug abusers who are more prone to HIV. Medical staff should be trained to sterilize needles and surgical instruments along with having strict surveillance in blood donation centers. Proper sex education and information on sexually transmitted diseases should also be provided in institutions due to the prevalence of sexual activities among youth. HIV resistance is another threat which can be prevented by combining effective antiretroviral drugs which reduces viral replication. Highly Active Antiretroviral Therapy (HAART) can transform HIV into a manageable

condition. Furthermore, mother to child transmission should be prevented through elective cesarean and availability to one dose of nevirapine as well exploring alternative methods for breastfeeding. Worldwide, pregnant HIV negative females with HIV positive male partners, need oral use of tenofovir/emtricitabine for one month before and after the conception. Sexual transmission should be prevented through usage of condoms and sexually active individuals should verify their HIV status breaking the taboo surrounding this condition (6,7).

CONFLICTS OF INTEREST:

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REFERENCES

- 1.De Cock KM, Jaffe HW, Curran JW. Reflections on 40 years of AIDS. *Emerg Infect Dis* [Internet]. 2021;27(6):1553–60. Available from:<http://dx.doi.org/10.3201/eid2706.210284>
- 2.Global HIV & AIDS statistics — Fact sheet [Internet]. Unaids.org. [cited 2023 Jan 11]. Available from:<https://www.unaids.org/en/resources/fact-sheet>
- 3.Pachau LN, Tannous C, Agho KE. Factors associated with knowledge, attitudes, and prevention towards HIV/AIDS among adults 15-49 years in Mizoram, North East India: A cross-sectional study. *Int J Environ Res Public Health* [Internet]. 2021;19(1):440. Available from:<http://dx.doi.org/10.3390/ijerph19010440>
- 4.Hogan AB, Jewell BL, Sherrard-Smith E, Vesga JF, Watson OJ, Whittaker C, et al. Potential impact of the COVID-19 pandemic on HIV, tuberculosis, and malaria in low-income and middle-income countries: a modelling study. *Lancet Glob Health* [Internet]. 2020;8(9):e1132–41. Available from:[http://dx.doi.org/10.1016/S2214-109X\(20\)30288-6](http://dx.doi.org/10.1016/S2214-109X(20)30288-6)
- 5.Mazzitelli M, Ciccullo A, Baldin G, Cauda R, Rusconi S, Giacomelli A, et al. Has COVID-19 changed the approach to HIV diagnosis?: A multicentric Italian experience: A multicentric Italian experience. *Medicine (Baltimore)* [Internet]. 2021;100(41):e27418. Available from:<http://dx.doi.org/10.1097/MD.00000000000027418>
- 6.Marfani WB, Khan HA, Sadiq M, Outani O. The rise in HIV cases in Pakistan: Prospective implications and approaches. *Ann Med Surg (Lond)* [Internet]. 2022;81(104492):104492. Available from:<http://dx.doi.org/10.1016/j.amsu.2022.104492>
- 7.Simon, V., Ho, D. D., & Abdool Karim, Q. (2006). HIV/AIDS epidemiology, pathogenesis, prevention, and treatment. *Lancet*, 368(9534), 489–504.[https://doi.org/10.1016/S0140-6736\(06\)69157-5](https://doi.org/10.1016/S0140-6736(06)69157-5)