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EDITORIAL

Recent Increase in HIV cases in Oman

*Ali Elgalib, Samir Shah, Zeyana Al-Habsi, Maha Al-Fouri, Richard Lau, Bader Al-Rawahi, Seif Al-Abri

The advent of antiretroviral therapy (ART) has transformed the HIV infection prognosis from a life-threatening disease to a manageable chronic condition with a near-normal life expectancy.[1] Besides, people living with HIV/AIDS (PLWHA) on regular ART with a suppressed HIV viral load (VL) do not infect their sexual partners.[2] Despite these remarkable developments in treatment and prevention, HIV/AIDS remains a major global public health threat. The most recent Joint United Nations Programme on HIV and AIDS (UNAIDS) global AIDS report shows that there were 38.4 million PLWHA in 2021; 1.5 million became newly infected, far short of the 2025 target of 370,000 new infections.[3] Furthermore, 650,000 AIDS-related deaths occurred in 2021, more than 2 folds of the 2025 target of 250,000 deaths.[3]

Of concern, the 2022 UNAIDS report warned that the global HIV/AIDS response was in danger. In Asia and the Pacific region, new HIV infections increased in 2021 where they had been decreasing over the last decade. In addition, the Eastern Europe and Central Asia, the Middle East and North Africa (MENA) and Latin America have all seen surges in annual HIV infections over the past 10 years.[3] Indeed, the new HIV infections in the MENA region have increased by 33% over the last 10 years. Of note, country-level data was only available for 11 out of 21 countries in the MENA region; the annual new HIV cases, in the period from 2011 to 2021, had increased in Algeria (167%), Yemen (77%), Lebanon (41%), Qatar (40%), Oman (35%) and Bahrain (8%). In contrast, the annual new HIV infections, over the same period, had decreased in Djibouti (-63%), Morocco (-48%), Libya (-21%), Sudan (-2%) and Tunisia (-1%).[4]

Oman is situated in the Arabian Peninsula, with a total population of 4,931,506; 2,064,778 (41.9%) are non-Omanis.[5] The first case of HIV/AIDS in Oman was diagnosed in 1984, and the National AIDS Programme (NAP) was formed in 1987. Currently 14 public treatment centres offer free HIV care, including antiretroviral therapy (ART) and testing for HIV genotyping, HIV VL, and CD4 count. The country adopted treatment for all, irrespective of CD4 cell count, in December 2015.[6]

A total of 3,580 Omani citizens were diagnosed with HIV from 1984 to 2021, of whom 1,996 (56%) were alive as of 31 December 2021.[7] Figure 1 shows the HIV cases among Omani nationals from 2010 to 2021, stratified by year of diagnosis and gender. Males accounted for 62% (88/143) and 84% (169/202) of HIV cases among Omani citizens in 2010 and 2021, respectively; however, the proportions of males among all HIV cases in the country, including the non-Omanis, were 57% (154/272) and 67% (221/335) in 2010 and 2021, respectively. In addition, the distribution of age at diagnosis has changed over time; the percentage of those aged 25-34 years rose from 31% (44/143) in 2010 to 46% (92/202) in 2021, while the proportion of persons aged 35-44 years decreased from 26% (37/143) to 19% (39/202) in the same periods; however, the percentage of those aged ≥45 years had remained the same, at 18% [Figure 1]. Sexual transmission has been the main driver of the epidemic; the proportions of new infections attributed to sexual contact accounted for 94% (134/143) of infections in 2010, compared to 97% (195/202) in 2021. The CD4 count at diagnosis is often used as marker of late HIV diagnosis. For Omani PLWHA diagnosed between 2010–2021, about two-thirds (69.9%) had a baseline CD4 count of <350 cells/mm^3 and 41.3% had a baseline CD4 count of <200 cells/mm^3. Out of PLWHA who were alive as of 31 December 2021 (n = 1,996), 81% were on ART; the proportion of patients with viral suppression (HIV VL <1,000 copies/mL) out of those on ART was 90% (1,457/1,617).[7]

The recent increase in the new diagnoses in Oman may be explained, in part, by an increase in HIV testing rather than an increase in the HIV incidence as suggested by the persisting high levels of late HIV diagnosis. However, the rise in new cases in persons aged 25–34 years might suggest high risk-taking behaviour in this cohort.[8] Indeed, the UNAIDS 2021 report shows that the overall HIV incidence (0.07 per 1,000 population) and prevalence (0.2 per 1,000 population) in Oman were stable in 2010–2021.[3] Future epidemiological and behavioural studies to determine the precise dynamic of HIV incidence, and the key populations in Oman are warranted.

Directorate General for Disease Surveillance and Control, Ministry of Health, Muscat, Oman
Corresponding Author's e-mail: elgalib@hotmail.com

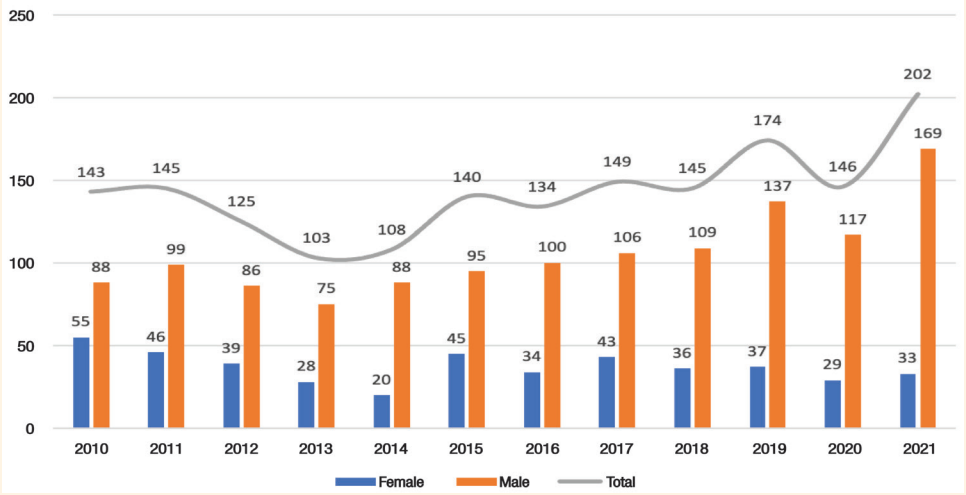

Figure 1: New HIV cases between 2010–2021 among Omani Nationals stratified by gender.

The association between late HIV diagnosis and increased morbidity and mortality is well established. Late HIV diagnosis is associated with a ten-fold increased risk of death within 12 months of diagnosis.[9] Late-stage HIV diagnosis also increases the risk of onward transmission and the cost of treatment and care.[10,11] The high proportion of late HIV diagnosis in Oman could be due to several reasons. A primary factor is the high level of HIV-related stigma and discrimination that prevent access to HIV testing services.[12,13] In addition, HIV prevention services targeting key populations and their partners are very limited. Furthermore, social disapproval of and punitive laws against high-risk behaviours such as sex work, injecting drug use and homosexuality.[13] To reduce the rates of late HIV diagnosis in Oman, the NAP has recently published an HIV manual for primary health care (PHC) intending to increase the HIV testing levels in PHC.[14] Evidence shows that primary and secondary care providers frequently miss opportunities for earlier HIV diagnosis, through a combination of lack of awareness of clinical syndromes, identifying possible risk factors and a general reluctance to discuss HIV testing.[15]

In September 2022, the World Health Organization (WHO) certified that Oman had eliminated mother-to-child transmission of HIV and syphilis, becoming the first country in the WHO Eastern Mediterranean Region and only the 16th country in the world to achieve this.[16,17] This accomplishment is a testimony of Oman's potential to end the AIDS epidemic by 2030 realising the goal of the Global Health Sector Strategies on HIV, viral hepatitis and sexually transmitted infections (GHSS) for the period 2022–2030.[18] To achieve this ambitious goal, the NAP in Oman must focus on two key GHSS targets, the reduction of the percentage of people starting ART with a CD4 count of <200 cells/mm^3 to <10% and the use of combination HIV prevention by 95% of people at risk of HIV by 2025.

The rates of ART coverage and viral suppression in Oman are encouragingly high, with a consequent decline in the community HIV viral load;[19,20] however, this has not resulted in reducing the HIV incidence in the country due to the high levels of late-stage HIV diagnosis. High proportions of PLWHA in Oman were diagnosed several years after acquiring the HIV infection and would have infected many people prior to their HIV diagnosis and initiation of ART. To reduce the rate of late HIV diagnosis and maximise the public health benefit of treatment as prevention, it is paramount to expand the HIV testing services in the country through decentralised and differentiated HIV testing services, with timely linkage to treatment and care. Different HIV testing approaches, including clinical settings, community-based approaches or self-testing might be used depending on epidemic dynamics and population needs; persons who are at risk of HIV but who test HIV negative should also be linked to HIV prevention services. While increasing the rates of HIV testing will, paradoxically, identify more cases in the short-term, the long-term results will be improved morbidity and mortality in PLWHA and a decline in onward transmission in the community.

Establishing combination HIV prevention, including male and female condoms, treatment as prevention, pre-exposure prophylaxis, post-exposure prophylaxis and harm reduction services for persons who inject drugs, is challenging; only 8% of people at risk of HIV in the world used combination HIV prevention in 2020. The lack of data about the size of and HIV prevalence among people at risk of HIV and the cultural context in Oman are compounding factors. However, maintaining the status quo is not

an option; establishing HIV prevention services that respect Oman's religion, culture and traditions is warranted. To raise awareness of HIV among the general population, culturally-sensitive information about HIV prevention, diagnosis and prevention can be disseminated through mass media, including social platforms. In addition, outreach awareness campaigns in colleges, universities and workplaces can target young people, including those aged 25–34 years. These initiatives can be led by a national committee, with members from all relevant stakeholders, including PLWHA, people at risk of HIV, community and faith leaders, civil society organisations, the ministry of health, the ministry of education and law-enforcing agencies.

To conclude, the annual new HIV cases in Oman have exceeded 140 in the last four years. However, despite this recent increase in HIV cases, the HIV epidemic in Oman has remained a low-prevalence one over the past decade. Sexual transmission has been the main driver of the epidemic in the country, with males and those aged 25–34 years disproportionately affected. Future epidemiological studies to determine the characteristics of people at risk for HIV in Oman and inform targeted interventions are warranted.

AUTHORS' CONTRIBUTION

AE and SA contributed to the idea conceptualisation. SS, MA and AE contributed to data curation and formal analysis. AE drafted the manuscript. SS, ZA, MA, RL, BA and SA reviewed and edited the manuscript. All authors approved the final version of the manuscript.

References

1. Gueler A, Moser A, Calmy A, Günthard HF, Bernasconi E, Furrer H, et al. Life expectancy in HIV-positive persons in Switzerland: Matched comparison with general population. AIDS 2017; 31:427–36. https://doi.org/10.1097/QAD.0000000000001335.
2. Prevention Access Campaign. Undetectable=untransmittable. From: https://www.preventionaccess.org/undetectable Accessed: Mar 2023.
3. Joint United Nations Programme on HIV/AIDS. In Danger: global AIDS update 2022. From: https://www.unaids.org/en/resources/documents/2022/in-danger-global-aids-update Accessed: Mar 2023.
4. AIDS info. Global data on HIV epidemiology and response. From: https://aidsinfo.unaids.org Accessed: Mar 2023.
5. National Center for Statistics and Information. Population clock. 2022, December. From: https://www.ncsi.gov.om/Pages/NCSI.aspx Accessed: Mar 2023.
6. HIV management in Oman. A guide for health care workers, 3rd edition.2015.From:www.moh.gov.om/en/web/directorate-general-of-disease-surveillance-control/resources Accessed: Mar 2023.
7. Annual health report. Department of Health Information and Statistics, MOH 2021. From: https://www.moh.gov.om/en/web/statistics/annual-reports Accessed: Mar 2023.
8. Kann L, McManus T, Harris WA, Shaanklin SL, Flint KH, Queen B, et al. Youth risk behavior surveillance—United States, 2017. MMWR Surveill Summ 2018; 67:1–114. https://doi.org/10.15585/mmwr.ss6708a1.
9. Lucas SB, Curtis H, and Johnson MA. National review of deaths among HIV-infected adults. Clin Med 2008; 8:250–2. https://doi.org/10.7861/clinmedicine.8-3-250.
10. Marks G, Crepaz N, and Janssen RS. Estimating sexual transmission of HIV from persons aware and unaware that they are infected with the virus in the USA. AIDS 2006; 20:1447–50. https://doi.org/10.1097/01.aids.0000233579.79714.8d.
11. Krentz HB, Auld MC, Gill MJ. The high cost of medical care for patients who present late (CD4 <200 cells/lL) with HIV infection. HIV Med 2004; 5:93–8. https://doi.org/10.1111/j.1468-1293.2004.00193.x.
12. Feyissa GT, Lockwood C, Woldie M, Munn Z. Reducing HIV-related stigma and discrimination in healthcare settings: A systematic review of quantitative evidence. PLoS One 2019; 14:e0211298. https://doi.org/10.1371/journal.pone.0211298.
13. Gökengin D, Doroudi F, Tohme J, Collins B, Madani N. HIV/AIDS: Trends in the Middle East and North Africa region. Int J Infect Dis 2016; 44:66–73. https://doi.org/10.1016/j.ijid.2015.11.008.
14. HIV in primary health care manual, Directorate General for Disease surveillance and control, Ministry of Health, Oman, First edition,2019.From:www.moh.gov.om/en/web/directorate-general-of-disease-surveillance-control/resources Accessed: Mar 2023.
15. Burns FM, Johnson AM, Nazroo J, Ainsworth J, Anderson J, Fakoya A, et al. Missed opportunities for earlier HIV diagnosis within primary and secondary healthcare settings in the UK. AIDS 2008; 22: 115–22. https://doi.org/10.1097/QAD.0b013e3282f1d4b6.
16. Elgalib A, Al-Hinai F, Al-Abri J, Shah S, Al-Habsi Z, Al-Fouri M, et al. Elimination of mother-to-child transmission of HIV in Oman: A success story from the Middle East. East Mediterr Health J 2021; 27:381–9. https://doi.org/10.26719/2021.27.4.381.
17. World Health Organisation. Press release: Oman first country in the Eastern Mediterranean Region to eliminate mother-to-child transmission of HIV and syphilis. Geneva: WHO; 2022. From:https://www.who.int/news/item/19-10-2022-oman-first-country-in-the-eastern-mediterranean-region-to-eliminate-mother-to-child-transmission-of-hiv-and-syphilis Accessed: Mar 2023.
18. World Health Organisation. Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period 2022-2030. Geneva: WHO; 2022. From: https://cdn.who.int/media/docs/default-source/hq-hiv-hepatitis-and-stis-library/full-final-who-ghss-hiv-vh-sti_1-june2022.pdf?sfvrsn=7c074b36_13 Accessed: Mar 2023.
19. Elgalib A, Shah S, Al-Habsi Z, Al-Fouria M, Al-Sawafi H, Al-Noumani J, et al. HIV viral suppression in Oman: Encouraging progress toward achieving the United Nations 'third 90'. Int J Infect Dis 2018; 71:94–9. https://doi.org/10.1016/j.ijid.2018.04.795.
20. Elgalib A, Shah S, Al-habsi Z, Al-fouri M, Lau R, Al-kindi H, et al. The cascade of HIV care in Oman, 2015-2018: A population-based study from the Middle East. Int J Infect Dis 2019; 90:28–34. https://doi.org/10.1016/j.ijid.2019.09.017.