

The Greying Pandemic: Implications of Ageing Human Immunodeficiency Virus-Positive Population in Singapore

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Human immunodeficiency virus (HIV) remains a global public health issue. It is estimated that there are 37.9 million people living with HIV (PLHIV) today.¹ With advances made in efficacy and tolerability of combination antiretroviral therapy (ART) and increased access to health services in developed and developing countries, PLHIV are now living longer, healthier lives. Consequently, there is a global demographic shift in the epidemiology of HIV including Singapore.

In 2002, 18.1% of PLHIV in Singapore were ≥ 50 years old; by 2018, the figure had increased to 23%.² The increase is attributed to 3 factors. First, ART has effectively reduced morbidity and mortality that are associated with HIV. Second, life expectancy of PLHIV who achieved durable viral suppression on ART is now comparable with that of the general population.³ Third, there is a decreasing incidence of HIV in younger adults and this has led to a visible shift in disease burden to older adults. The trend towards a growing number of older HIV patients is a global phenomenon: approximately 20% of PLHIV ≥ 50 years old live in Central and Western Europe and North America.¹

Effective HIV treatment, viral suppression and immune recovery have led to a shift in care priorities to include a focus on physiological and psychological health and quality of life for PLHIV of all ages. Treatment recommendations for adolescents and adults infected with HIV are also appropriate for older adults with HIV. However, there are unique challenges faced by older patients that include low perception of HIV risk (leading to reduced testing and delayed diagnosis and presentation to care), coexisting health issues, disease stigma and discrimination. In this article, we highlight aspects and challenges of HIV management in older adults in Singapore and offer some recommendations to address them.

HIV and Comorbidities

Morbidity that is typically associated with ageing—such as chronic cardiovascular, kidney and liver diseases; bone

loss and increased fracture risk; cognitive impairment; and cancer—is more common in HIV-positive individuals. Additionally, frailty—a syndrome characterised by reduced strength and endurance and diminished physiologic function that leads to increased risk of adverse health outcomes—may pose a particular risk in older PLHIV since HIV is a chronic, multisystemic disease. The onset of these age-related syndromes may also present at least a decade earlier than is typically observed in comparable HIV-negative populations.⁴

The reasons for “accelerated” ageing in PLHIV are complex. They include chronic inflammation and immune activation, drug toxicity and response to ART, lifestyle and social factors that persist even with highly effective ART and viral suppression.⁵ The situation is worsened when adherence is compromised in individuals who have several concomitant chronic conditions—including neuropsychiatric conditions associated with HIV infection—or when they face poverty and food insecurity that are not uncommon in older PLHIV. These non-communicable comorbidities, consequent polypharmacy and frailty can threaten the functional ability, intrinsic capacity and quality of life of PLHIV as they age, and the overall effect may be potentially greater than conditions associated with acquired immune deficiency syndrome (AIDS).

HIV and Polypharmacy

Polypharmacy is defined as the concurrent use of ≥ 5 medications, and PLHIV have a higher polypharmacy rate than their HIV-negative peers. Typically, ART involves the use of 3 antiretroviral drugs. With increasing age, the medications can also include non-ART drugs. In the Multicenter AIDS Cohort Study which compared the prevalence of polypharmacy in PLHIV and HIV-negative participants over a 12-year period, Ware et al⁶ found that PLHIV had a higher polypharmacy rate of 24.4% compared to 11.6% in the HIV-negative group ($P < 0.0001$). In its examination of polypharmacy and epidemiology

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of non-AIDS diseases in 8444 PLHIV, the Swiss HIV Cohort Study⁷ found that antihypertensives were the most commonly prescribed non-ART medications followed by lipid-lowering agents, antiplatelet drugs and diabetes medications. This finding highlighted the higher risk for age-associated comorbid diseases in these patients.

Polypharmacy is associated with decreased medication adherence, serious adverse drug events (ADE) that require hospitalisation and increased mortality. Ageing PLHIV may be more susceptible to ADE due to diminished organ system reserves, chronic inflammation and immune dysfunction and metabolic changes that can precipitate a vicious cycle of end-organ injury and frailty.⁸

Additionally, polypharmacy increases the risk of drug-drug interactions that may result in increased treatment-associated toxicities or reduced treatment efficacy. The risk of non-adherence, discontinuation or reduced efficacy of ART is of particular concern since it is crucial to maintain viral suppression and immune reconstitution in PLHIV.

Behavioural, Mental Health and Psychosocial Aspects of HIV and Ageing

Ageing is associated with a multitude of psychosocial challenges that can affect mental health and neurocognitive function in older PLHIV.⁹ The incidence of neurocognitive disorders is intrinsically higher in PLHIV than in HIV-negative individuals, and 50% of PLHIV develop some degree of HIV-associated neurocognitive disorder (HAND).¹⁰ ART may not be sufficient to prevent milder forms of HAND such as asymptomatic neuropsychological impairment. However, access to cognitive rehabilitation and behavioural interventions that can improve or maintain societal and environmental mastery is lacking. Depression, substance abuse and unemployment are higher in PLHIV and despite evidence that supports a need for mental health services, older PLHIV are less likely to receive such services than younger counterparts.

Studies suggest that older PLHIV are less happy, less resilient, have poorer attitudes towards ageing and report earlier and more rapid decline in health and independence than their HIV-negative peers.¹¹ As they age, PLHIV are forced to grapple with issues such as impending retirement from the workforce, disengagement and/or uncertainty about their role in society, finances and long-term housing with their own increasing care needs. Although efforts were made to promote “successful ageing” in Singapore, the prospects of living with HIV—a stigmatised chronic condition—can heighten anxiety and uncertainty over the ageing process.

In HIV-positive individuals, disease stigma and social isolation increase with age. The fear of discrimination and social stigma attached to HIV can predispose PLHIV to poorer social connectedness that leads to poor social

support later in life.¹² This is a disconcerting issue since HIV disproportionately affects single, older men and men who have sex with other men in Singapore who may lack traditional social support networks in their later years. In Singapore, sociocultural norms such as family and filial piety that provide some semblance of safety in old age may not necessarily be true for PLHIV.

Challenges and Recommendations for “Greying” PLHIV in Singapore

Singapore faces several potential challenges to care for her ageing PLHIV population. First, her HIV and infectious diseases physicians are not trained to handle the specific needs of the geriatric population. Her geriatricians and family physicians may also not be familiar with the care of PLHIV. There is a need for her medical practitioners to learn to manage holistic health issues that are beyond their chosen field of work and to work closely with one another to provide community-based care and support for ageing PLHIV.

Second, sexual health education that includes HIV prevention and community support for PLHIV traditionally targets a younger demographic. With more “greying” PLHIV, health services can target prevention of HIV and sexually transmitted infections in older adults. Additionally, community services such as smoking cessation and physical activity programmes for HIV patients can be enhanced to support ageing PLHIV. PLHIV with chronic medical conditions can also be supported in the community with, for example, the setting up of dialysis centres that are equipped to handle the needs of HIV patients. Such initiatives will require a concerted effort to drive service enhancement that includes educating service providers on ageing and HIV-specific issues, engaging primary care providers and equipping eldercare and long-term care facilities to care for older PLHIV.

Third, older PLHIV may face stigma of a nature which is unique to that faced by younger PLHIV; however, this is not well understood in the local context. Consequently, there is a need for more awareness and training on mental health and social support by frontline workers, health providers and policymakers to provide programmes and services that mitigate the unique challenges faced by ageing PLHIV.

Conclusion

The community, health providers and stakeholders involved in the care of PLHIV must appreciate and understand the experience of ageing with HIV. As her society matures, Singaporeans must learn to be kinder and more accepting and tolerant. An adage comes to mind: “Grow old along with me, the best is yet to be”. This may yet hold true for the current generation of older PLHIV in Singapore.

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