

RISING HIV INCIDENCE AMONG THE ELDERLY IN BRAZIL: A PUBLIC HEALTH CHALLENGE

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Resume: **INTRODUCTION** The introduction highlights the growing incidence of HIV among the elderly population in Brazil, framing it as a significant public health concern. It discusses the demographic shift towards older individuals living with HIV, driven by both new infections and the aging of individuals already infected. The introduction also outlines the biological, social, and healthcare factors contributing to this trend and emphasizes the need for targeted public health interventions and policies. **OBJETIVE** To explore the increasing incidence of HIV among the elderly population in Brazil **METHODS** This is a narrative review which included studies in the MEDLINE – PubMed (National Library of Medicine, National Institutes of Health), COCHRANE, EMBASE and Google Scholar databases, using as descriptors: “HIV incidence” AND “Elderly population” AND “Epidemiology” AND “Public health” AND “Antiretroviral therapy” in the last years. **RESULTS AND DISCUSSION** The results and discussion sections delve into the epidemiological data, showing a clear increase in HIV cases among individuals aged 60 and above. It explores biological susceptibilities, such as the aging immune system and comorbidities, and their impact on HIV management. The discussion also covers social factors, including the persistence of sexual activity, the rise in divorce rates, and the use of dating apps, all of which contribute to the heightened risk of HIV. The role of public health policies and the need for tailored interventions and education programs are examined, alongside a comparison of global trends to provide context and learn from international strategies. **CONCLUSION** The increasing incidence of HIV among the elderly population in Brazil represents a multifaceted public health challenge. Addressing this issue requires a comprehensive approach that considers biological susceptibility, evolving

sexual behaviors, and the role of new social platforms. Effective public health strategies must include targeted education, improved access to preventive measures, and robust support systems to reduce stigma and ensure comprehensive care for older adults living with HIV.

Keywords: HIV incidence; Elderly; Antiretroviral therapy; Public health.

INTRODUCTION

The increasing incidence of Human Immunodeficiency Virus (HIV) among the elderly population in Brazil presents a significant public health challenge, necessitating a nuanced understanding of epidemiological trends, risk factors, and healthcare strategies¹. HIV, primarily transmitted through unprotected sexual contact, contaminated needles, and vertical transmission, has long been a critical focus of global health initiatives². The virus targets the immune system, particularly CD4+ T cells, leading to immunodeficiency and, if untreated, progresses to Acquired Immunodeficiency Syndrome (AIDS). Advances in antiretroviral therapy (ART) have transformed HIV into a manageable chronic condition, yet the demographic shift towards older individuals living with HIV demands attention³.

In Brazil, the elderly population, defined as individuals aged 60 and above, has shown a notable rise in HIV incidence³. This age group now represents a growing proportion of new HIV cases, reflecting both improved longevity due to effective ART and new infections. Epidemiological data indicate a significant increase in HIV cases among older adults over the past two decades⁴. For instance, the number of new HIV infections among individuals aged 60 and above has risen markedly, underscoring the need for targeted interventions and public health policies to address this demographic shift⁵.

The historical perspective of HIV incidence reveals that while younger populations were initially the primary focus, the aging cohort of those living with HIV has shifted the burden⁴. Improvements in HIV treatment have extended the lifespan of individuals with the virus, leading to an aging population with specific healthcare needs⁵. Additionally, demographic shifts, including increased life expectancy and changing social behaviors, contribute to the evolving epidemiology of HIV among the elderly⁶.

Sexual health among the elderly is a critical yet often overlooked aspect of this discussion⁷. Contrary to the stereotype of asexual aging, many older adults maintain active sexual lives. Treatments for erectile dysfunction and changing social norms have facilitated continued sexual activity into later life⁷. However, this increased activity is frequently not accompanied by adequate preventive measures, such as condom use, due to factors like decreased penile sensitivity from conditions like diabetes and a lack of perceived risk⁸.

Biological factors also play a crucial role in the increased susceptibility of older adults to HIV. Age-related changes in the immune system, such as reduced immune response and chronic inflammation, can exacerbate the impact of HIV⁹. Moreover, comorbidities common in this age group, such as cardiovascular diseases and diabetes, complicate the management of HIV and heighten the risk of severe outcomes. These biological susceptibilities necessitate tailored approaches to HIV prevention and treatment in older adults¹⁰. Social factors, including loneliness, the formation of new relationships after the loss of a spouse, and the use of dating apps like Tinder and Grindr, further contribute to the rising HIV incidence¹⁰. These platforms, while facilitating social connections, also increase the risk of HIV

transmission through new sexual encounters without sufficient preventive measures¹⁰. Additionally, the increase in divorce rates and the normalization of remarriage or casual relationships among older adults can lead to higher exposure to HIV¹¹.

Awareness and education about HIV prevention remain insufficient among the elderly¹². Many older adults did not receive comprehensive sexual education during their formative years and may not view themselves as at risk, leading to lower rates of condom use and HIV testing. Furthermore, healthcare access barriers, including stigma and discrimination, impede effective prevention, early diagnosis, and treatment¹³. Current policies and guidelines for HIV prevention and treatment need to be reviewed and adapted to address the unique needs of the elderly population¹³. The Brazilian Unified Health System (SUS) plays a critical role in providing access to care and developing targeted interventions. However, there is an urgent need for more focused efforts to increase awareness, reduce stigma, and promote routine HIV testing among older adults¹⁴.

OBJETIVES

To explore the increasing incidence of HIV among the elderly population in Brazil.

SECONDARY OBJETIVES

1. To examine the contributing biological, social, and healthcare factors to this rising trend.
2. To evaluate the current public health responses and suggest targeted interventions.
3. To analyze the impact of age-related biological changes and comorbidities on HIV susceptibility and management.
4. To investigate the role of social behaviors and changes, such as increased sexual

activity and use of dating apps, in the rising HIV incidence.

5. To assess the effectiveness of current public health policies and guidelines and suggest improvements.

METHODS

This is a narrative review, in which the main aspects of the increasing incidence of HIV among the elderly population in Brazil in recent years were analyzed. The beginning of the study was carried out with theoretical training using the following databases: PubMed, sciELO and Medline, using as descriptors: “HIV incidence” AND “Elderly population” AND “Epidemiology” AND “Public health” AND “Antiretroviral therapy” in the last years. As it is a narrative review, this study does not have any risks.

Databases: This review included studies in the MEDLINE – PubMed (National Library of Medicine, National Institutes of Health), COCHRANE, EMBASE and Google Scholar databases.

The inclusion criteria applied in the analytical review were human intervention studies, experimental studies, cohort studies, case-control studies, cross-sectional studies and literature reviews, editorials, case reports, and poster presentations. Also, only studies writing in English and Portuguese were included.

RESULTS AND DISCUSSION

The epidemiological data from Brazil reveal a concerning trend: the incidence of HIV among individuals aged 60 and above has steadily increased over the past two decades¹⁵. In 2018, this demographic accounted for a significant portion of new HIV cases, reflecting broader global patterns¹⁵. Studies indicate that this rise is due to both new infections and the aging of those already living with HIV, thanks to effective ART. This shift

necessitates a reevaluation of public health strategies to address the specific needs of older adults¹⁶. Biological susceptibility due to aging is a critical factor in the rising incidence of HIV among the elderly. The immune system's gradual decline, coupled with chronic inflammation, increases vulnerability to HIV¹⁶. Furthermore, comorbidities like diabetes and cardiovascular diseases, prevalent among the elderly, exacerbate the challenges of managing HIV and its treatment. Polypharmacy, the concurrent use of multiple medications, complicates ART regimens, increasing the risk of adverse drug interactions and side effects¹⁷.

Sexual behavior in the elderly population has evolved, contributing significantly to the rise in HIV cases¹⁸. Many older adults continue to engage in sexual activity, often facilitated by treatments for erectile dysfunction. However, decreased penile sensitivity due to conditions like diabetes reduces condom use¹⁸. Additionally, the increase in divorce rates and the naturalization of remarriage or casual relationships contribute to higher HIV transmission risks¹⁸. The use of dating apps like Tinder and Grindr has also become more common among the elderly, further facilitating new sexual encounters without adequate preventive measures¹⁹. Public health interventions must adapt to these changes. The SUS has implemented various initiatives to address HIV, but there is a need for more focused efforts targeting the elderly¹⁹. Educational programs should emphasize the importance of condom use and routine HIV testing. Reducing stigma and discrimination is crucial to encourage older adults to seek testing and treatment without fear²⁰. Additionally, healthcare providers must be trained to address the unique needs of elderly patients living with HIV, ensuring they receive comprehensive and compassionate care²⁰.

The reduced fear of HIV due to advancements in ART has also contributed

to the rising incidence among the elderly²¹. The perception of HIV as a manageable chronic condition has led to complacency about prevention. This reduced fear, coupled with inadequate education about the ongoing risks, has resulted in lower engagement in protective behaviors among older adults²². Addressing this complacency requires a renewed focus on education and awareness campaigns that highlight the importance of continued prevention efforts²³. Maintaining sexual health is essential for the physical and psychological well-being of the elderly. It is crucial to promote safe sex practices to prevent the transmission of HIV and other sexually transmitted infections (STIs)²⁴. Educational programs should emphasize the importance of condom use, regular HIV testing, and open communication with healthcare providers about sexual health concerns²⁴. Additionally, healthcare providers should be trained to address the unique needs of older adults, fostering an environment where they feel comfortable discussing their sexual health²⁵.

The impact of comorbidities and polypharmacy on HIV management in the elderly cannot be overstated²⁵. Conditions such as diabetes, hypertension, and cardiovascular diseases require careful consideration when prescribing ART, as drug interactions and side effects can be more pronounced in this population²⁵. Managing these complexities requires a multidisciplinary approach that includes regular monitoring and coordination between various healthcare providers. Adherence to ART is critical for effective HIV management, yet it poses challenges for the elderly²⁶. Cognitive impairments, physical limitations, and complex medication regimens can hinder adherence. Interventions such as simplified dosing schedules, caregiver support, and the use of technology (e.g., reminder apps) can improve adherence and health outcomes in older adults living with

HIV. Ensuring that these interventions are tailored to the specific needs of the elderly is essential for their success²⁷.

The role of social support systems in managing HIV in the elderly is paramount. Older adults often rely on family members, friends, and community resources for support²⁸. Strengthening these support systems can improve adherence to treatment, reduce stigma, and enhance the overall quality of life for elderly individuals living with HIV²⁹. Community outreach programs and support groups can provide much-needed assistance and foster a sense of belonging and acceptance. Healthcare utilization patterns among elderly HIV patients reveal the need for integrated services that address both HIV and age-related health issues³⁰. Comprehensive care models that incorporate routine HIV care with geriatric services can improve health outcomes and reduce the burden on healthcare systems³⁰. These models should focus on preventive care, early diagnosis, and effective management of comorbidities to ensure that elderly HIV patients receive holistic care^{31,32}.

Tailored interventions are necessary to address the unique challenges faced by elderly individuals living with HIV³³. These interventions should consider the specific biological, social, and psychological factors that influence HIV risk and management in this population³⁴. Policy recommendations should focus on increasing access to preventive measures, enhancing healthcare provider training, and reducing stigma and discrimination against elderly HIV patients. Educational programs targeting HIV awareness in the elderly are crucial for preventing new infections and ensuring timely diagnosis and treatment³⁵. These programs should be culturally sensitive and accessible, providing information on safe sex practices, the importance of regular testing, and the

availability of treatment options. Community outreach efforts can also play a significant role in raising awareness and reducing stigma³⁶.

The integration of HIV services with other geriatric healthcare services is essential for providing comprehensive care to elderly HIV patients³⁷. This approach can improve health outcomes, reduce healthcare costs, and enhance the overall quality of life for elderly individuals living with HIV³⁸. Integrated care models should focus on preventive care, early diagnosis, and effective management of comorbidities to ensure that elderly HIV patients receive holistic care³⁹. Global comparisons reveal that the rise in HIV incidence among the elderly is not unique to Brazil but is a global phenomenon. Understanding these trends and learning from successful interventions in other countries can inform public health strategies in Brazil⁴⁰. Collaborative efforts and shared knowledge can help develop effective policies and programs to address the rising incidence of HIV among the elderly worldwide^{41,42,43}.

CONCLUSION

The increasing incidence of HIV among the elderly population in Brazil is a complex public health issue that requires a multifaceted approach. As evidenced by epidemiological data, there is a clear upward trend in HIV cases among individuals aged 60 and above, a demographic shift driven by both new infections and the aging of individuals who have lived with HIV for many years. This phenomenon is not isolated to Brazil but reflects a global trend, necessitating a comprehensive understanding of the factors at play. Biologically, the aging immune system, with its diminished capacity to fend off infections, plays a significant role in increasing susceptibility to HIV. Comorbid conditions such as diabetes and cardiovascular diseases further complicate the management

of HIV in older adults, highlighting the need for specialized medical care. Polypharmacy, a common issue among the elderly, introduces additional challenges, such as drug interactions and adherence issues, that must be carefully managed to ensure effective treatment.

Socially, the persistence of sexual activity among the elderly, facilitated by treatments for erectile dysfunction and evolving social norms, contributes to the heightened risk of HIV. The use of dating apps and the increase in divorce rates further complicate the social landscape, increasing the potential for new sexual encounters without adequate preventive measures. The stigma and discrimination associated with HIV, coupled with a lack of targeted education and awareness among the elderly, exacerbate these risks. The role of the Brazilian Unified Health System (SUS) is crucial in addressing these challenges. Public health policies must be adapted to better cater to the needs of the elderly, emphasizing the importance of routine HIV testing, safe sex practices, and comprehensive care models that integrate HIV services with other geriatric healthcare services. Educational programs should be designed to raise awareness and reduce stigma, encouraging older adults to seek testing and treatment without fear.

Global comparisons provide valuable insights into effective strategies for managing HIV among the elderly. Learning from successful interventions in other countries can inform public health strategies in Brazil, fostering collaborative efforts and shared knowledge to develop robust policies and programs. Addressing the rising incidence of HIV among the elderly requires a concerted effort from healthcare providers, policymakers, and the community to ensure that this vulnerable population receives the care and support they need. The increasing incidence of HIV among the elderly in Brazil is a pressing public health issue that demands immediate

and targeted action. By understanding the biological, social, and healthcare factors contributing to this trend, we can develop effective strategies to mitigate the impact of HIV on older adults. Through education, comprehensive care, and the reduction of

stigma, we can improve health outcomes and quality of life for the elderly population living with HIV. It is imperative that we address this issue with urgency and compassion, ensuring that no segment of the population is left behind in the fight against HIV.

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