# WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

SJIF Impact Factor: 6.842

Review Article
ISSN 2455-3301
WJPMR

# HIV PREVENTION FOR MIGRANT WORKERS IN LOW-INCOME COUNTRIES: CHALLENGES AND STRATEGIES

Emmanuel Ifeanyi Obeagu\*1, Chukwuma J. Okafor2, Rita Ifeoma-Ossy Ogu3 and Anthonia Onyinye Ngwoke3

<sup>1</sup>Department of Biomedical and Laboratory Science, Africa University, Zimbabwe.

<sup>2</sup>Department of Pathology and Biochemistry, State University of Zanzibar, Tanzania.

<sup>3</sup>Department of Physiology, Faculty of Basic Medical Sciences, Enugu State University of Science and Technology, Enugu State, Nigeria.



\*Corresponding Author: Emmanuel Ifeanyi Obeagu

Department of Biomedical and Laboratory Science, Africa University, Zimbabwe.

Article Received on 19/11/2024

Article Revised on 10/12/2024

Article Accepted on 30/12/2024

## **ABSTRACT**

Migrant workers in low-income countries face heightened vulnerability to HIV due to a combination of factors, including limited access to healthcare, social stigma, and precarious employment conditions. This review explores the unique challenges these workers encounter and examines various strategies for improving HIV prevention within this population. It highlights how the transitory nature of migration, along with a lack of comprehensive healthcare services, exposes migrant workers to increased risks of HIV infection. Moreover, social factors, such as stigma and discrimination surrounding HIV, further exacerbate the challenges they face in seeking HIV testing, treatment, and prevention. The review emphasizes the importance of healthcare access and social support in reducing HIV transmission among migrant workers. Strategies such as mobile health services, community-based education programs, and the inclusion of migrant workers in national health systems are vital in overcoming the barriers they face. In particular, efforts to reduce stigma, ensure confidentiality, and provide culturally sensitive care can significantly improve testing rates and adherence to treatment. Additionally, improving labor conditions and providing migrants with health insurance coverage can help mitigate their vulnerability to HIV.

**KEYWORDS:** HIV Prevention, Migrant Workers, Low-Income Countries, Healthcare Access, Policy Interventions.

## INTRODUCTION

Migrant workers, particularly those in low-income countries, represent a significant portion of the global workforce. These individuals often migrate in search of better economic opportunities, leaving behind their homes and families in rural or impoverished regions for employment in urban or foreign locations. While migration can lead to economic benefits, it also exposes migrant workers to various social, economic, and healthrelated challenges, with HIV being one of the most significant concerns. Migrant workers disproportionately affected by HIV, and their vulnerability is compounded by factors such as limited access to healthcare, social stigma, precarious working conditions, and lack of awareness. This review explores the unique challenges faced by migrant workers in lowincome countries in relation to HIV prevention and examines potential strategies to address these issues. [1-3] One of the primary factors contributing to the increased vulnerability of migrant workers to HIV is their limited access to healthcare. In many low-income countries, healthcare systems are often under-resourced and lack

the infrastructure to provide adequate services to all populations. Migrant workers, particularly those in informal or seasonal employment, may not have access to employer-provided health insurance or social welfare benefits, making it difficult for them to seek HIV testing, treatment, and preventive care. Additionally, the healthcare facilities available to migrant workers are often inadequate, with long wait times, poor-quality services, and a lack of culturally competent care. This limited access to healthcare exacerbates the risks associated with HIV and hinders efforts to prevent transmission among migrant populations. [4-6]

In addition to physical barriers to healthcare, migrant workers often face social stigma and discrimination related to HIV. In many societies, HIV is associated with marginalized groups, such as sex workers, people who inject drugs, and men who have sex with men, leading to stigmatization of individuals who are perceived to be at higher risk. Migrant workers, who may already be marginalized due to their status as foreign laborers or members of a lower social class, may face additional

barriers to accessing HIV services. Fear of discrimination, social isolation, and lack of support can discourage migrant workers from seeking HIV testing, counseling, and treatment. As a result, they may remain unaware of their HIV status, delaying diagnosis and treatment, which contributes to the continued spread of the virus.<sup>[7-9]</sup> The transitory nature of migrant work also plays a significant role in their HIV risk. Migrant workers often live in temporary, unstable conditions, with frequent movement between different regions or countries. This mobility can make it difficult for individuals to maintain consistent healthcare access, follow-up appointments, or ongoing HIV treatment. Additionally, the social isolation experienced by many migrant workers, especially those working far from their families and familiar support networks, may lead to risky behaviors, such as unprotected sex with multiple partners. The lack of social cohesion and emotional support, coupled with the stress of living in a foreign or unfamiliar environment, further increases the risk of HIV transmission among this population. [10-12]

Raising awareness about HIV among migrant workers is essential for effective prevention. Many migrant workers lack accurate information about HIV, its transmission, and prevention methods. They may not have access to sexual health education or HIV awareness campaigns, particularly in their countries of origin, where HIV-related knowledge may be limited. In many cases, cultural and language barriers also hinder the effectiveness of HIV prevention campaigns targeted at migrant workers. Public health efforts must focus on increasing awareness among migrant populations about the importance of HIV testing, safe sexual practices, and the availability of preventive services. This can be achieved through community-based education, peer-led programs, and culturally relevant health campaigns that are tailored to the specific needs and contexts of migrant workers. [13-15] Improving the employment conditions of migrant workers is another critical component of HIV prevention. Many migrant workers are employed in lowwage, informal, or seasonal jobs that often lack adequate labor protections, including access to healthcare and safe working conditions. In sectors such as construction, agriculture, and domestic work, migrant workers are at a higher risk of exploitation and abuse, which increases their vulnerability to HIV. The lack of job security, unstable wages, and poor living conditions can exacerbate mental and emotional stress, leading to behaviors that increase HIV risk. By improving labor protections, such as ensuring that migrant workers have access to health insurance, paid sick leave, and safe working environments, we can help reduce the social determinants that contribute to HIV risk. [16-18] Policy interventions at both national and international levels are essential to address the HIV prevention needs of migrant workers. Governments in countries of origin and destination must work together to create policies that ensure migrant workers have access to HIV prevention, testing, and treatment services, regardless of their legal

or immigration status. International organizations, such as the World Health Organization (WHO) and UNAIDS, have a critical role in promoting cross-border cooperation and supporting countries in implementing comprehensive HIV strategies for migrant populations. These strategies must include the integration of migrant workers into national health systems, access to HIV services at border crossings or migration hubs, and the development of inclusive health policies that cater to the unique needs of this population. Additionally, international labor agreements that include healthcare provisions for migrant workers can help ensure that they are protected from HIV-related risks. [19-21]

#### **Healthcare Access**

Healthcare access is one of the most critical factors influencing HIV prevention among migrant workers in low-income countries. Migrant workers are often at a disadvantage when it comes to accessing healthcare services due to their transient living conditions, lack of legal recognition, and economic instability. In many lowincome countries, healthcare systems are underresourced and primarily focused on serving local populations, often leaving migrant workers without sufficient healthcare infrastructure. Additionally, migrant workers are often employed in informal sectors where they may not be eligible for employer-sponsored health benefits or social security programs, limiting their ability to afford and access essential services, including HIV prevention, testing, and treatment. [22-24] Furthermore, migrant workers face significant logistical barriers to healthcare access. Many migrant populations live in remote areas or crowded urban slums, far from medical facilities, making it difficult to receive regular check-ups or emergency care. Healthcare facilities in these regions are often overwhelmed, underfunded, and ill-equipped to address the needs of migrants, particularly in the areas of sexual and reproductive health. These healthcare gaps contribute to delayed HIV diagnosis and treatment, leaving migrant workers more vulnerable to both acquiring and transmitting the virus. In some cases, the lack of familiarity with the local healthcare system, language barriers, and fear of discrimination from healthcare providers further deter migrant workers from seeking care. [25-27]

## Social Stigma and Discrimination

Social stigma and discrimination are significant barriers to HIV prevention and care for migrant workers in low-income countries. These social factors can exacerbate the already challenging circumstances migrant workers face, making them more vulnerable to HIV and preventing them from accessing critical healthcare services. Stigma surrounding HIV often leads to social exclusion, rejection, and marginalization, particularly in regions where HIV is heavily associated with behaviors perceived as deviant or taboo, such as sex work, drug use, or homosexuality. For migrant workers, who are already marginalized due to their immigration status or economic class, the added stigma of HIV can be a

powerful deterrent to seeking testing, treatment, and prevention services. [28-30] Migrant workers may also experience discrimination within healthcare settings, where providers may harbor negative attitudes towards them due to their migrant status, perceived HIV risk, or socio-economic background. This discrimination can manifest as a lack of culturally competent care, dismissive attitudes, or even refusal of services, all of which contribute to a mistrust of healthcare systems and a reluctance to seek care. Additionally, fear of exposure, compounded by the stigma associated with HIV, may discourage migrant workers from disclosing their HIV status to family members, employers, or healthcare providers. As a result, many workers remain undiagnosed and untreated, which not only exacerbates their health risks but also contributes to the ongoing transmission of HIV. [31-33] Addressing the social stigma and discrimination faced by migrant workers requires multi-faceted interventions at both the societal and institutional levels. Public health campaigns aimed at educating communities about HIV transmission, debunking myths, and challenging harmful stereotypes are essential for reducing stigma and promoting more inclusive attitudes. Healthcare providers must also be trained in cultural competence, non-discriminatory practices, and confidentiality to ensure that migrant workers feel safe and respected when seeking care. Furthermore, creating environments where migrant workers can access HIV services without fear of judgment, discrimination, or exposure is crucial. This can be achieved through confidential testing services, community-based outreach, and support groups that provide solidarity and empower migrant workers to address their HIV-related health needs without fear of social repercussions. Reducing stigma and discrimination is key to improving HIV prevention, care, and treatment for migrant workers in low-income countries. [34-36]

## **Employment Conditions and Vulnerability**

Employment conditions are a critical factor in determining the vulnerability of migrant workers to HIV in low-income countries. Many migrant workers are employed in informal or low-wage sectors such as agriculture, construction, and domestic labor, where labor rights are often weak, and workers have limited access to healthcare and social services. These precarious employment conditions contribute significantly to the increased risk of HIV exposure among migrant populations. In particular, unstable work arrangements, long hours, and exposure to high-risk environments often lead to poor living conditions that can heighten HIV vulnerability. For instance, overcrowded housing, lack of sanitation, and inadequate access to basic services, such as healthcare and nutrition, create an environment where sexual and reproductive health may be neglected, thereby increasing the likelihood of unsafe sexual practices that facilitate HIV transmission. [37-40] Additionally, the nature of many migrant jobs leaves workers socially isolated and disconnected from their families and communities. This isolation, coupled with stress from living in an

unfamiliar environment, can lead to risky behaviors such as transactional sex, multiple sexual partners, and substance use-all of which are known to increase the risk of HIV infection. In many cases, migrant workers, particularly those employed in sectors like construction and agriculture, may have limited opportunities to access sexual health education or HIV prevention programs. The absence of comprehensive worker protection, including health insurance and paid sick leave, further exacerbates the situation, leaving migrant workers unable to access necessary HIV prevention tools such as condoms, pre-exposure prophylaxis (PrEP), or HIV testing. [41-42] The lack of job security and exploitative working conditions also play a role in increasing HIV vulnerability among migrant workers. Migrants are often reluctant to seek healthcare or disclose their HIV status due to the fear of job loss or discrimination from employers. This fear, coupled with the lack of social safety nets, creates a cycle of vulnerability, where workers may avoid seeking help or treatment until their condition becomes critical, leading to delays in diagnosis and treatment. To reduce the HIV vulnerability of migrant workers, it is essential to improve their working conditions by enforcing labor rights protections, ensuring to healthcare, and creating environments that promote HIV awareness prevention. Furthermore, providing migrant workers with health insurance, access to health services, and workplace HIV prevention programs can significantly reduce their risk and ensure that they receive the necessary care and support to maintain their health and well-being.<sup>[43-45]</sup>

### **Policy Interventions and Global Cooperation**

Policy interventions and global cooperation are essential components in addressing the HIV-related challenges faced by migrant workers in low-income countries. Migrant workers often fall outside the scope of national healthcare systems, especially in countries restrictive immigration policies or those that lack adequate resources for inclusive healthcare. effectively reduce HIV vulnerability among migrant workers, governments must implement policies that ensure equitable access to healthcare services for all individuals, regardless of immigration status. This includes guaranteeing that migrant workers are included in national health insurance schemes, providing access to free or affordable HIV testing and treatment, and ensuring that HIV-related services are available in areas with high concentrations of migrant labor. By enacting inclusive policies, governments can reduce barriers to healthcare access and ensure that migrant workers are not excluded from HIV prevention and care programs. [46] Furthermore, international cooperation plays a pivotal role in addressing the cross-border nature of migration and the HIV epidemic. Many migrant workers move between countries, often without proper documentation or legal protections, which complicates their ability to access health services in both their country of origin and their destination country. International agreements

between countries of origin, transit, and destination are crucial in ensuring migrant workers' rights to healthcare, including HIV prevention, treatment, and support services. Global cooperation can also facilitate the sharing of resources, best practices, and knowledge about HIV prevention and treatment, enabling countries to strengthen their healthcare systems and develop coordinated responses to migrant health issues. Organizations such as the World Health Organization (WHO) and UNAIDS play a critical role in promoting these international collaborations, advocating for policies that protect migrant workers' health and ensuring that HIV prevention is a global priority. [47] In addition to intergovernmental cooperation, the involvement of nongovernmental organizations (NGOs) and communitybased organizations (CBOs) is essential in creating more effective HIV prevention programs for migrant workers. NGOs can bridge the gap between migrants and formal healthcare systems by providing culturally sensitive outreach, education, and support services that cater to the needs of migrant populations. organizations can also serve as advocates for migrant workers, pushing for better working conditions, labor protections, and greater inclusion in public health policies. At the global level, international development agencies and philanthropic organizations can support funding for HIV prevention programs targeting migrant workers, ensuring that they receive the necessary resources to mitigate their risk. By combining efforts across governments, NGOs, international organizations, and the private sector, a more comprehensive and sustainable response to HIV prevention for migrant workers can be achieved, ultimately reducing HIV transmission and improving the health and well-being of these vulnerable populations.[47]

## CONCLUSION

Addressing HIV prevention for migrant workers in lowincome countries requires a multifaceted approach that combines healthcare access, social support, legal protections, and global cooperation. Migrant workers, often marginalized by their employment conditions, lack of legal recognition, and economic instability, face significant barriers in accessing HIV prevention and care services. The challenges they face, including stigma, discrimination, poor working conditions, and limited healthcare infrastructure, make them particularly vulnerable to HIV infection. However, by implementing inclusive policies that ensure access to essential HIV services, improving healthcare infrastructure in migrantdense areas, and promoting education on HIV prevention, these barriers can be reduced. Furthermore, the involvement of international organizations, NGOs, and community-based groups is crucial to filling gaps in care, advocating for migrant rights, and providing culturally appropriate services. Policy interventions at both the national and international levels, supported by coordinated global efforts, can help create a more favorable environment for migrant workers. These initiatives should focus on removing legal and logistical

obstacles to healthcare, ensuring that migrant workers are integrated into national health systems, and promoting social inclusion to reduce stigma and discrimination associated with HIV.

#### REFERENCES

- 1. Obeagu EI, Obeagu GU. Harnessing B Cell Responses for Personalized Approaches in HIV Management. Elite Journal of Immunology, 2024; 2(2): 15-28.
- 2. Obeagu EI, Obeagu GU. The Role of L-selectin in Tuberculosis and HIV Coinfection: Implications for Disease Diagnosis and Management. Elite Journal of Public Health, 2024; 2(1): 35-51.
- 3. Obeagu EI, Obeagu GU. Platelet Aberrations in HIV Patients: Assessing Impacts of ART. Elite Journal of Haematology, 2024; 2(3): 10-24.
- 4. Obeagu EI, Obeagu GU. Impact of Maternal Eosinophils on Neonatal Immunity in HIV- Exposed Infants: A Review. Elite Journal of Immunology, 2024; 2(3): 1-18.
- 5. Obeagu EI, Obeagu GU. Advancements in HIV Prevention: Africa's Trailblazing Initiatives and Breakthroughs. Elite Journal of Public Health, 2024; 2(1): 52-63.
- 6. Pederson A, Greaves L, Poole N. Gender-transformative health promotion for women: a framework for action. Health promotion international, 2014; 30(1): 140-150.
- 7. Turchik JA, Hebenstreit CL, Judson SS. An examination of the gender inclusiveness of current theories of sexual violence in adulthood: Recognizing male victims, female perpetrators, and same-sex violence. Trauma, Violence, & Abuse, 2016; 17(2): 133-148.
- 8. World Health Organization. Consolidated guidelines on HIV, viral hepatitis and STI prevention, diagnosis, treatment and care for key populations. World Health Organization, 2022.
- Dubé K, Kanazawa J, Campbell C, Boone CA, Maragh-Bass AC, Campbell DM, Agosto-Rosario M, Stockman JK, Diallo DD, Poteat T, Johnson M. Considerations for increasing racial, ethnic, gender, and sexual diversity in HIV cure-related research with analytical treatment interruptions: a qualitative inquiry. AIDS research and human retroviruses, 2022; 38(1): 50-63.
- Reavis KM, Bisgaard N, Canlon B, Dubno JR, Frisina RD, Hertzano R, Humes LE, Mick P, Phillips NA, Pichora-Fuller MK, Shuster B. Sexlinked biology and gender-related research is essential to advancing hearing health. Ear and hearing, 2023; 44(1): 10-27.
- 11. Obeagu EI, Obeagu GU. Hematologic Considerations in Breast Cancer Patients with HIV: Insights into Blood Transfusion Strategies. Elite Journal of Health Science, 2024; 2(2): 20-35.
- 12. Obeagu EI, Obeagu GU. Understanding ART and Platelet Functionality: Implications for HIV Patients. Elite Journal of HIV, 2024; 2(2): 60-73.

- 13. Obeagu EI, Obeagu GU. Optimizing Blood Transfusion Protocols for Breast Cancer Patients Living with HIV: A Comprehensive Review. Elite Journal of Nursing and Health Science, 2024; 2(2): 1-17.
- 14. Obeagu EI, Obeagu GU. Immune Modulation in HIV-Positive Neonates: Insights and Implications for Clinical Management. Elite Journal of Nursing and Health Science, 2024; 2(3): 59-72.
- 15. Obeagu EI, Obeagu GU. Transfusion Therapy in HIV: Risk Mitigation and Benefits for Improved Patient Outcomes. Asian Journal of Dental and Health Sciences, 2024 Mar 15; 4(1): 32-7.
- 16. Davies SE. Gender empowerment in the health aid sector: Locating best practice in the Australian context. Australian Journal of International Affairs, 2018; 72(6): 520-534.
- 17. Shetty S. Fostering Inclusive Development in Sub-Saharan Africa Through Gender Equality. SAIS Review of International Affairs, 2021; 41(1): 33-48.
- 18. Blankenship KM, Reinhard E, Sherman SG, El-Bassel N. Structural interventions for HIV prevention among women who use drugs: A global perspective. JAIDS Journal of Acquired Immune Deficiency Syndromes, 2015; 69: S140-155.
- 19. Tripathi S, Rajeev M. Gender-inclusive development through Fintech: Studying gender-based digital financial inclusion in a cross-country setting. Sustainability, 2023; 15(13): 10253.
- 20. May JF, Rotenberg S. A call for better integrated policies to accelerate the fertility decline in sub-Saharan Africa. Studies in family planning, 2020; 51(2): 193-204.
- 21. Obeagu EI, Obeagu GU, Okwuanaso CB. Optimizing Immune Health in HIV Patients through Nutrition: A Review. Elite Journal of Immunology, 2024; 2(1): 14-33.
- 22. Obeagu EI. Erythropoietin and the Immune System: Relevance in HIV Management. Elite Journal of Health Science, 2024; 2(3): 23-35.
- 23. Obeagu EI, Obeagu GU. Hematocrit Fluctuations in HIV Patients Co-infected with Malaria Parasites: A Comprehensive Review. Int. J. Curr. Res. Med. Sci, 2024; 10(1): 25-36.
- 24. Obeagu EI, Ubosi NI, Obeagu GU, Akram M. Early Infant Diagnosis: Key to Breaking the Chain of HIV Transmission. Elite Journal of Public Health, 2024; 2(1): 52-61.
- 25. Obeagu EI, Ubosi NI, Obeagu GU, Obeagu AA. Nutritional Strategies for Enhancing Immune Resilience in HIV: A Review. Int. J. Curr. Res. Chem. Pharm. Sci, 2024; 11(2): 41-51.
- 26. Rodrigo C, Rajapakse S. HIV, poverty and women. International Health. 2010; 2(1): 9-16.
- 27. Greener R, Sarkar S. Risk and vulnerability: do socioeconomic factors influence the risk of acquiring HIV in Asia?. Aids, 2010; 24: S3-11.
- 28. Amin A. Addressing gender inequalities to improve the sexual and reproductive health and wellbeing of

- women living with HIV. Journal of the International AIDS Society, 2015; 18: 20302.
- 29. Zierler S, Krieger N. Reframing Women's Risk:: Social Inequalities and HIV Infection. Women, Medicine, Ethics and the Law, 2020; 401-436.
- 30. Berndt VK, Austin KF. Drought and disproportionate disease: an investigation of gendered vulnerabilities to HIV/AIDS in less-developed nations. Population and Environment, 2021; 42(3): 379-405.
- 31. Obeagu EI, Obeagu GU. Understanding Immune Cell Trafficking in Tuberculosis-HIV Coinfection: The Role of L-selectin Pathways. Elite Journal of Immunology, 2024; 2(2): 43-59.
- 32. Obeagu EI, Anyiam AF, Obeagu GU. Synergistic Effects of Blood Transfusion and HIV in Children Under 5 Years with Severe Malaria: A Review. Elite Journal of HIV, 2024; 2(1): 31-50.
- 33. Kim J, Pronyk P, Barnett T, Watts C. Exploring the role of economic empowerment in HIV prevention. Aids, 2008; 22: S57-71.
- 34. Chersich MF, Rees HV. Vulnerability of women in southern Africa to infection with HIV: biological determinants and priority health sector interventions. Aids, 2008; 22: S27-40.
- 35. Folayan MO, Arije O, Enemo A, Sunday A, Muhammad A, Nyako HY, Abdullah RM, Okiwu H, Undelikwo VA, Ogbozor PA, Amusan O. Factors associated with poor access to HIV and sexual and reproductive health services in Nigeria for women and girls living with HIV during the COVID-19 pandemic. African Journal of AIDS Research, 2022; 21(2): 171-182.
- 36. Armoon B, Higgs P, Fleury MJ, Bayat AH, Moghaddam LF, Bayani A, Fakhri Y. Sociodemographic, clinical and service use determinants associated with HIV related stigma among people living with HIV/AIDS: a systematic review and meta-analysis. BMC health services research, 2021; 21: 1-20.
- 37. Yah CS, Tambo E. Why is mother to child transmission (MTCT) of HIV a continual threat to new-borns in sub-Saharan Africa (SSA). Journal of infection and public health, 2019; 12(2): 213-223.
- 38. Wamoyi J, Mshana G, Mongi A, Neke N, Kapiga S, Changalucha J. A review of interventions addressing structural drivers of adolescents' sexual and reproductive health vulnerability in sub-Saharan Africa: implications for sexual health programming. Reproductive health, 2014; 11: 1-5.
- 39. Zachek CM, Coelho LE, Domingues RM, Clark JL, De Boni RB, Luz PM, Friedman RK, de Andrade ÂC, Veloso VG, Lake JE, Grinsztejn B. The intersection of HIV, social vulnerability, and reproductive health: analysis of women living with HIV in Rio de Janeiro, Brazil from 1996 to 2016. AIDS and Behavior, 2019; 23: 1541-1551.
- 40. Alemayehu BA. Gender inclusive training challenges in higher education institutions in Ethiopia: Implications for reforming training for

- gender equality. International Journal of Didactical Studies, 2020; 1(1): 16-21.
- 41. Gudhlanga E, Chirimuuta C, Bhukuvhani C. Towards a gender inclusive curriculum in Zimbabwe's education system: Opportunities and challenges. Gender and behavior, 2012; 10(1): 4533-4545.
- 42. Sevelius JM, Keatley J, Gutierrez-Mock L. HIV/AIDS programming in the United States: considerations affecting transgender women and girls. Women's Health Issues, 2011; 21(6): S278-282.
- 43. Sørensen H. Gender inclusive science education?: The influence of attitudes and values toward science. In The re-emergence of values in science education, 2007: 249-267. Brill.
- 44. Lowik AJ, Knight R. Toward gender-inclusive, nonjudgmental alcohol interventions for pregnant people: challenging assumptions in research and treatment. Journal of Addiction Medicine, 2019; 13(5): 335-337.
- 45. Restar A, Jin H, Operario D. Gender-inclusive and gender-specific approaches in trans health research. Transgender Health, 2021; 6(5): 235-239.
- 46. Keith RM. Gender and food security: cross cutting or crossed out? The challenge of implementing gender-just food security solutions. InHandbook of Food Security and Society, 2023; 145-161. Edward Elgar Publishing.
- 47. Tordoff DM, Restar A, Minalga B, Fernandez A, Dimitrov D, Duerr A, Seattle Trans and Nonbinary Sexual Health (STARS) Advisory Board. Including transgender populations in mathematical models for HIV treatment and prevention: current barriers and policy implications. Journal of the International AIDS Society, 2024; 27(6): e26304.