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Elite Journal of HIV. Volume 2 issue 4(2024), Pp. 110-127
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Climate Change as a Driver of HIV Transmission Dynamics: A Review

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Abstract

Climate change is increasingly recognized as a multifaceted challenge with far-reaching implications for human health. Among its numerous impacts, climate change is now understood to play a significant role in shaping the dynamics of HIV transmission. This review article synthesizes existing literature to elucidate the complex interplay between climate change and HIV transmission dynamics. The paper explores how environmental changes influence factors such as vector behavior, socio-economic vulnerabilities, migration patterns, and healthcare infrastructure, ultimately impacting HIV spread. Furthermore, the paper discusses potential adaptation strategies and policy implications to mitigate the adverse effects of climate change on HIV transmission. By comprehensively understanding these interactions, we can develop more effective interventions to address both climate change and HIV/AIDS.

Keywords*: Climate Change, HIV Transmission, Epidemiology, Environmental Factors, Vulnerability, Adaptation Strategies*

Introduction

Climate change is no longer just a distant threat; it is a pressing reality reshaping our world and impacting various facets of human existence. From altering weather patterns to exacerbating natural disasters, the effects of climate change are ubiquitous and multifaceted. Among its

Citation: Obeagu EI, Mami DM, Obeagu GU. Climate Change as a Driver of HIV Transmission Dynamics: A Review. Elite Journal of HIV, 2024; 2(4): 110-127

numerous consequences, climate change has emerged as a significant driver influencing the dynamics of HIV transmission. HIV/AIDS, a global pandemic that has claimed millions of lives and continues to pose a formidable public health challenge, intersects with climate change in complex ways. Understanding the interplay between these two phenomena is crucial for devising effective strategies to mitigate their combined impact on human health and well-being. The global prevalence of HIV/AIDS underscores its significance as a public health concern. Despite decades of concerted efforts to combat the epidemic, HIV/AIDS remains a formidable challenge, particularly in regions with limited access to healthcare resources and education. Concurrently, climate change is exacerbating vulnerabilities in these already marginalized communities, further compounding the challenges they face in addressing HIV/AIDS. Therefore, exploring the nexus between climate change and HIV transmission dynamics is imperative for developing comprehensive interventions that address the underlying social, environmental, and health-related determinants driving both phenomena.[1-25]

Environmental factors play a pivotal role in shaping the transmission dynamics of HIV/AIDS. Climate variability, including changes in temperature and precipitation patterns, influences the distribution and abundance of vectors such as mosquitoes, which can act as carriers of HIV. Moreover, alterations in ecological habitats due to climate change can disrupt human settlements and livelihoods, leading to increased population mobility and potential exposure to HIV. Understanding these environmental drivers is essential for predicting and mitigating the impact of climate change on HIV transmission dynamics. Socio-economic vulnerabilities exacerbate the intersection of climate change and HIV/AIDS. Marginalized populations, including those living in poverty, women, and LGBTQ+ individuals, face heightened risks of both HIV infection and climate-related impacts. Socio-economic disparities contribute to unequal access to healthcare, education, and resources necessary for HIV prevention and treatment, further exacerbating vulnerability to the disease. Consequently, addressing socio-economic inequities is essential for effectively combating both HIV/AIDS and climate change. Migration patterns represent another critical aspect of the climate change-HIV nexus. Climate-induced disasters, such as hurricanes, floods, and droughts, often force populations to migrate in search of safer living conditions and livelihood opportunities. However, migration can also increase exposure to HIV due to disrupted healthcare access, economic instability, and social dislocation. As such, understanding the complex relationship between climate-induced migration and HIV transmission dynamics is essential for developing targeted interventions that address the needs of mobile populations while minimizing the risk of HIV spread.[26-51]

Environmental Factors Influencing HIV Transmission

Environmental factors play a pivotal role in shaping the transmission dynamics of HIV/AIDS, influencing its prevalence, distribution, and impact on populations. These factors interact with biological, social, and economic determinants to create complex pathways through which HIV spreads within communities. Understanding the environmental drivers of HIV transmission is essential for developing targeted interventions and strategies to mitigate its impact. Climate variability, including changes in temperature and precipitation patterns, can directly and indirectly

affect HIV transmission. Warmer temperatures can extend the survival and reproduction rates of HIV within bodily fluids, potentially increasing the risk of transmission during sexual intercourse or through contaminated needles. Changes in precipitation patterns can impact water availability and sanitation infrastructure, affecting hygiene practices and access to clean water, which are critical for preventing HIV transmission. Alterations in ecological habitats due to deforestation, urbanization, and land-use changes can influence human behavior and interactions, thereby impacting HIV transmission dynamics. Displacement of populations due to environmental degradation or natural disasters can lead to overcrowding, inadequate housing, and limited access to healthcare, increasing vulnerability to HIV infection. Moreover, changes in ecosystems may affect the distribution of disease vectors and reservoirs, altering the risk of HIV transmission through vector-borne routes.[52-74]

Access to safe water and sanitation facilities is essential for preventing HIV transmission and maintaining overall health. Environmental factors such as droughts, floods, and contamination of water sources can compromise access to clean water and sanitation infrastructure, increasing the risk of HIV transmission through unsafe hygiene practices and waterborne diseases. Poor sanitation conditions also contribute to opportunistic infections and co-infections, further complicating the management of HIV/AIDS. Vector-borne diseases, such as malaria and dengue fever, share overlapping geographical distributions with HIV/AIDS in many regions. Environmental factors, including temperature, humidity, and rainfall patterns, influence the abundance, distribution, and behavior of disease vectors, such as mosquitoes. Co-infection with HIV and vector-borne diseases can exacerbate immune suppression and disease progression, posing additional challenges for healthcare delivery and treatment outcomes. Natural disasters, such as hurricanes, floods, and earthquakes, can disrupt healthcare infrastructure, social support systems, and access to essential services, increasing vulnerability to HIV transmission. Population displacement, loss of livelihoods, and breakdown of community networks following environmental disasters create conditions conducive to high-risk behaviors, such as transactional sex, substance abuse, and migration, which can elevate the risk of HIV acquisition and transmission.[75-87]

Socio-Economic Vulnerabilities and Climate Change

Socio-economic vulnerabilities intersect with climate change in intricate ways, exacerbating inequalities and magnifying the impacts of environmental stressors on communities. These vulnerabilities contribute to heightened susceptibility to the adverse effects of climate change, including increased risks of disease transmission, displacement, and loss of livelihoods. Understanding the complex interplay between socio-economic factors and climate change is essential for developing equitable and effective strategies to address both environmental challenges and socio-economic disparities. Poverty remains one of the most significant determinants of vulnerability to climate change. Impoverished communities often lack the resources and infrastructure to adapt to changing environmental conditions, increasing their exposure to climate-related risks. Limited access to healthcare, education, and social services further compounds the challenges faced by poor communities, exacerbating their vulnerability to

diseases such as HIV/AIDS. Climate change can exacerbate poverty by affecting agricultural productivity, disrupting livelihoods, and increasing food insecurity, creating a vicious cycle of vulnerability and deprivation. Gender inequalities intersect with climate change in complex ways, shaping vulnerability and adaptive capacity within communities. Women and girls often bear the brunt of climate change impacts due to entrenched gender norms, unequal access to resources, and limited decision-making power. Climate-related disasters can exacerbate existing gender disparities by disproportionately affecting women's health, safety, and economic well-being. In many contexts, women are primary caregivers and agricultural producers, making them particularly vulnerable to the impacts of climate change on food security, water availability, and health outcomes.[88-102]

Access to healthcare services is critical for mitigating the health impacts of climate change, including diseases such as HIV/AIDS. Socio-economic disparities in healthcare access and affordability limit the ability of marginalized communities to seek timely diagnosis, treatment, and prevention services for HIV/AIDS and other health conditions. Climate change can further strain healthcare systems by increasing the incidence of vector-borne diseases, exacerbating malnutrition and waterborne illnesses, and overwhelming already fragile health infrastructure in low-resource settings. Climate-induced displacement and migration disproportionately affect marginalized communities, exacerbating social inequalities and vulnerability to HIV/AIDS. Environmental degradation, natural disasters, and resource scarcity can force populations to migrate in search of safer living conditions and livelihood opportunities. However, displacement can disrupt social networks, expose migrants to exploitation and violence, and limit access to healthcare services, increasing the risk of HIV transmission. Moreover, migrants often face discrimination, stigma, and legal barriers to accessing HIV/AIDS prevention, treatment, and support services in their host communities.[103-112]

Migration Patterns and HIV Transmission Dynamics

Migration patterns play a significant role in shaping the dynamics of HIV transmission, particularly in the context of climate change and environmental factors. Human migration, whether forced or voluntary, can influence the spread of HIV/AIDS through various pathways, including changes in sexual behavior, access to healthcare, and social networks. Understanding the complex relationship between migration patterns and HIV transmission dynamics is essential for developing targeted interventions and policies to mitigate the impact of both phenomena. Climate change-induced environmental disasters, such as hurricanes, floods, and droughts, can force millions of people to flee their homes in search of safety and stability. Displaced populations often face overcrowded living conditions, limited access to clean water and sanitation, and disrupted healthcare services, increasing their vulnerability to HIV transmission. Moreover, environmental disasters can disrupt social networks and support systems, leading to changes in sexual behavior, transactional sex, and substance abuse, which can elevate the risk of HIV acquisition and transmission within displaced populations. Rural-urban migration is a common phenomenon driven by factors such as economic opportunities, infrastructure development, and environmental degradation. Migration from rural to urban areas can expose individuals to new social

environments, economic opportunities, and sexual networks, influencing HIV transmission dynamics. Urban areas often have higher HIV prevalence rates and greater availability of HIV prevention and treatment services compared to rural areas. However, urban migrants may face social exclusion, discrimination, and barriers to accessing healthcare services, increasing their vulnerability to HIV/AIDS.[113-132]

Cross-border migration, whether for economic, political, or environmental reasons, can facilitate the spread of HIV/AIDS across national and regional boundaries. Migrants often face legal, social, and economic barriers to accessing HIV prevention, treatment, and support services in their host countries, exacerbating their vulnerability to HIV transmission. Moreover, migration can lead to disruptions in healthcare continuity, including interruptions in antiretroviral therapy (ART) adherence, which can compromise treatment outcomes and contribute to the emergence of drug-resistant strains of HIV. Internal displacement due to conflict, persecution, and environmental degradation can increase vulnerability to HIV transmission within affected populations. Displaced individuals often face precarious living conditions, limited access to healthcare, and heightened levels of violence and exploitation, increasing their risk of HIV acquisition and transmission. Moreover, displacement can disrupt social support networks, exacerbate mental health issues, and hinder access to HIV prevention and treatment services, compounding the challenges faced by displaced populations in managing HIV/AIDS.[133-142]

Healthcare Infrastructure and Adaptation Strategies

Healthcare infrastructure plays a critical role in shaping the response to HIV/AIDS and its interaction with climate change. As climate change impacts become more pronounced, healthcare systems face increasing challenges in delivering essential services, including HIV prevention, treatment, and care. Developing resilient healthcare infrastructure and implementing adaptation strategies are essential for ensuring continuity of HIV/AIDS services and mitigating the impact of climate change on healthcare delivery. Strengthening healthcare systems is essential for ensuring the effective delivery of HIV/AIDS services in the face of climate change. This includes investing in infrastructure, equipment, and human resources necessary for HIV prevention, testing, treatment, and care. Improving healthcare governance, management, and financing mechanisms can enhance the resilience of healthcare systems and ensure their capacity to respond to the evolving needs of HIV/AIDS and climate-related health challenges. Climate-resilient healthcare facilities are critical for maintaining service delivery during extreme weather events and other climate-related emergencies. Retrofitting existing healthcare facilities to withstand climate-related hazards, such as floods, storms, and heatwaves, can minimize disruptions in HIV/AIDS services and protect healthcare workers and patients. Incorporating climate resilience considerations into the design, construction, and operation of new healthcare facilities can enhance their ability to withstand future climate impacts.[143-145]

Integrating HIV/AIDS and climate change adaptation strategies can maximize synergies and leverage resources to address common challenges. This includes mainstreaming climate change considerations into HIV/AIDS programming, such as incorporating climate risk assessments into

HIV service planning and delivery. Similarly, integrating HIV/AIDS services into broader climate change adaptation initiatives, such as community resilience-building programs, can enhance the effectiveness and sustainability of both interventions. Telemedicine and digital health solutions offer innovative approaches to overcoming barriers to healthcare access and delivery in the context of climate change.[146-147] Leveraging mobile technology, telemedicine platforms, and digital health tools can facilitate remote consultations, medication adherence support, and health education for HIV/AIDS patients, particularly in remote and hard-to-reach areas. These technologies can also enhance healthcare system efficiency, improve data collection and surveillance, and support decision-making in HIV/AIDS programming and climate adaptation efforts. Community health systems play a crucial role in delivering HIV/AIDS services and supporting community-based adaptation to climate change. Strengthening community health worker networks, engaging communities in healthcare planning and decision-making, and promoting local ownership of healthcare initiatives can enhance the resilience of health systems and improve health outcomes for HIV/AIDS patients. Empowering communities to identify and address their own healthcare needs can foster resilience and sustainability in the face of climate change.

Policy Implications and Future Directions

Policy implications and future directions at the intersection of climate change and HIV transmission dynamics are crucial for addressing the complex challenges posed by these intertwined phenomena.[148] Effective policies and strategic interventions can help mitigate the impact of climate change on HIV/AIDS and enhance resilience to environmental stressors. Policymakers should adopt integrated approaches that address both climate change and HIV/AIDS comprehensively. This includes mainstreaming climate change considerations into HIV/AIDS policies and programs and vice versa. Integrated approaches can leverage synergies, optimize resource allocation, and enhance the effectiveness of interventions aimed at reducing vulnerability to both climate change and HIV/AIDS. Strengthening health systems is essential for ensuring the continuity of HIV/AIDS services in the face of climate change. Policymakers should prioritize investments in healthcare infrastructure, human resources, and capacity-building initiatives to enhance the resilience of health systems. This includes improving healthcare governance, management, and financing mechanisms to ensure sustainable service delivery and equitable access to HIV/AIDS prevention, treatment, and care. Community engagement and empowerment are critical for building resilience to both climate change and HIV/AIDS. Policymakers should prioritize community-based approaches that involve local communities in decision-making processes, healthcare planning, and adaptation initiatives. Empowering communities to identify and address their own healthcare needs can enhance resilience, foster social cohesion, and promote sustainable development outcomes.

Gender-responsive policies are essential for addressing the differential impacts of climate change and HIV/AIDS on women, girls, and marginalized gender groups.[149] Policymakers should prioritize gender equality and women's empowerment in climate change adaptation and HIV/AIDS programming, including addressing gender-based violence, promoting sexual and reproductive health rights, and ensuring access to education and economic opportunities for women and girls.[150]

Continued research and innovation are essential for advancing knowledge and developing evidence-based strategies to address the complex interactions between climate change and HIV transmission dynamics. Policymakers should support interdisciplinary research initiatives that explore the underlying drivers of vulnerability, identify effective adaptation strategies, and evaluate the impact of policy interventions. Investing in research and innovation can inform policy and practice and facilitate the development of scalable solutions to address both climate change and HIV/AIDS. International cooperation and partnerships are essential for addressing the global challenges of climate change and HIV/AIDS. Policymakers should prioritize multilateral collaboration, knowledge-sharing, and capacity-building initiatives to support countries in implementing climate-resilient HIV/AIDS programs and strengthening health systems. International cooperation can facilitate the mobilization of resources, transfer of technology, and exchange of best practices to enhance resilience and promote sustainable development outcomes worldwide.

Conclusion

The intersection of climate change and HIV transmission dynamics presents complex challenges that require urgent and coordinated action from policymakers, healthcare providers, researchers, and communities worldwide. Climate change influences the spread of HIV/AIDS through various pathways, including environmental factors, socio-economic vulnerabilities, migration patterns, and healthcare infrastructure. Conversely, HIV/AIDS exacerbates vulnerability to climate change impacts, creating a vicious cycle of health disparities and environmental degradation. In the face of evolving environmental and health threats, the importance of resilience, innovation, and solidarity cannot be overstated. By working together across sectors and borders, we can build a more resilient and equitable world where all individuals have the opportunity to live healthy and fulfilling lives, free from the dual burdens of climate change and HIV/AIDS. Let us seize this opportunity to forge a path towards a sustainable future for generations to come.

References

1. McMichael AJ. Planetary overload: global environmental change and the health of the human species. Cambridge University Press; 1993.
2. Reser JP, Swim JK. Adapting to and coping with the threat and impacts of climate change. American Psychologist. 2011;66(4):277.
3. Irwin AC, Millen JV, Fallows D. Global AIDS: myths and facts: tools for fighting the AIDS pandemic. South End Press; 2003.
4. Snowden FM. Emerging and reemerging diseases: a historical perspective. Immunological reviews. 2008;225(1):9-26.
5. Russell BS, Eaton LA, Petersen-Williams P. Intersecting epidemics among pregnant women: alcohol use, interpersonal violence, and HIV infection in South Africa. Current HIV/AIDS Reports. 2013; 10:103-110.

Citation: Obeagu EI, Mami DM, Obeagu GU. Climate Change as a Driver of HIV Transmission Dynamics: A Review. Elite Journal of HIV, 2024; 2(4): 110-127

6. Obeagu EI, Okwuanaso CB, Edoho SH, Obeagu GU. Under-nutrition among HIV-exposed Uninfected Children: A Review of African Perspective. Madonna University journal of Medicine and Health Sciences. 2022;2(3):120-127.
7. Obeagu EI. A Review of Challenges and Coping Strategies Faced by HIV/AIDS Discordant Couples. Madonna University journal of Medicine and Health Sciences. 2023 ;3(1):7-12. https://madonnauniversity.edu.ng/journals/index.php/medicine/article/view/91.
8. Obeagu EI, Obeagu GU. An update on premalignant cervical lesions and cervical cancer screening services among HIV positive women. J Pub Health Nutri. 2023; 6 (2). 2023; 141:1-2. links/63e538ed64252375639dd0df/An-update-on-premalignant-cervical-lesions-and-cervical-cancer-screening-services-among-HIV-positive-women.pdf.
9. Ezeoru VC, Enweani IB, Ochiabuto O, Nwachukwu AC, Ogbonna US, Obeagu EI. Prevalence of Malaria with Anaemia and HIV status in women of reproductive age in Onitsha, Nigeria. Journal of Pharmaceutical Research International. 2021;33(4):10-19.
10. Omo-Emmanuel UK, Chinedum OK, Obeagu EI. Evaluation of laboratory logistics management information system in HIV/AIDS comprehensive health facilities in Bayelsa State, Nigeria. Int J Curr Res Med Sci. 2017;3(1): 21-38.DOI: 10.22192/ijcrms.2017.03.01.004
11. Obeagu EI, Obeagu GU. An update on survival of people living with HIV in Nigeria. J Pub Health Nutri. 2022; 5 (6). 2022;129. links/645b4bfcf3512f1cc5885784/An-update-on-survival-of-people-living-with-HIV-in-Nigeria.pdf.
12. Offie DC, Obeagu EI, Akueshi C, Njab JE, Ekanem EE, Dike PN, Oguh DN. Facilitators and barriers to retention in HIV care among HIV infected MSM attending Community Health Center Yaba, Lagos Nigeria. Journal of Pharmaceutical Research International. 2021;33(52B):10-19.
13. Obeagu EI, Ogbonna US, Nwachukwu AC, Ochiabuto O, Enweani IB, Ezeoru VC. Prevalence of Malaria with Anaemia and HIV status in women of reproductive age in Onitsha, Nigeria. Journal of Pharmaceutical Research International. 2021;33(4):10-19.
14. Odo M, Ochei KC, Obeagu EI, Barinaadaa A, Eteng UE, Ikpeme M, Bassey JO, Paul AO. TB Infection Control in TB/HIV Settings in Cross River State, Nigeria: Policy Vs Practice. Journal of Pharmaceutical Research International. 2020;32(22):101-119.
15. Obeagu EI, Eze VU, Alaeboh EA, Ochei KC. Determination of haematocrit level and iron profile study among persons living with HIV in Umuahia, Abia State, Nigeria. J BioInnovation. 2016; 5:464-471. links/592bb4990f7e9b9979a975cf/DETERMINATION-OF-HAEMATOCRIT-LEVEL-AND-IRON-PROFILE-STUDY-AMONG-PERSONS-LIVING-WITH-HIV-IN-UMUAHIA-ABIA-STATE-NIGERIA.pdf.
16. Ifeanyi OE, Obeagu GU. The values of prothrombin time among HIV positive patients in FMC owerri. International Journal of Current Microbiology and Applied Sciences. 2015;4(4):911-916. https://www.academia.edu/download/38320140/Obeagu_Emmanuel_Ifeanyi_and_Obeagu__Getrude_Uzoma2.EMMA1.pdf.
17. Izuchukwu IF, Ozims SJ, Agu GC, Obeagu EI, Onu I, Amah H, Nwosu DC, Nwanjo HU, Edward A, Arunsi MO. Knowledge of preventive measures and management of HIV/AIDS

victims among parents in Umuna Orlu community of Imo state Nigeria. Int. J. Adv. Res. Biol. Sci. 2016;3(10): 55-65.DOI; 10.22192/ijarbs.2016.03.10.009

18. Chinedu K, Takim AE, Obeagu EI, Chinazor UD, Eloghosa O, Ojong OE, Odunze U. HIV and TB co-infection among patients who used Directly Observed Treatment Short-course centres in Yenagoa, Nigeria. IOSR J Pharm Biol Sci. 2017;12(4):70-75. links/5988ab6d0f7e9b6c8539f73d/HIV-and-TB-co-infection-among-patients-who-used-Directly-Observed-Treatment-Short-course-centres-in-Yenagoa-Nigeria.pdf
19. Oloro OH, Oke TO, Obeagu EI. Evaluation of Coagulation Profile Patients with Pulmonary Tuberculosis and Human Immunodeficiency Virus in Owo, Ondo State, Nigeria. Madonna University journal of Medicine and Health Sciences. 2022;2(3):110-119.
20. Nwosu DC, Obeagu EI, Nkwocha BC, Nwanna CA, Nwanjo HU, Amadike JN, Elendu HN, Ofoedeme CN, Ozims SJ, Nwankpa P. Change in Lipid Peroxidation Marker (MDA) and Non enzymatic Antioxidants (VIT C & E) in HIV Seropositive Children in an Urban Community of Abia State. Nigeria. J. Bio. Innov. 2016;5(1):24-30. links/5ae735e9a6fdcc5b33eb8d6a/CHANGE-IN-LIPID-PEROXIDATION-MARKER-MDAAND-NON-ENZYMATIC-ANTIOXIDANTS-VIT-C-E-IN-HIV-SEROPOSITIVE-CHILDREN-IN-AN-URBAN-COMMUNITY-OF-ABIA-STATE-NIGERIA.pdf.
21. Ifeanyi OE, Obeagu GU, Ijeoma FO, Chioma UI. The values of activated partial thromboplastin time (APTT) among HIV positive patients in FMC Owerri. Int J Curr Res Aca Rev. 2015; 3:139-144. https://www.academia.edu/download/38320159/Obeagu_Emmanuel_Ifeanyi3__et_al.IJCRAR.pdf.
22. Obiomah CF, Obeagu EI, Ochei KC, Swem CA, Amachukwu BO. Hematological indices o HIV seropositive subjects in Nnamdi Azikiwe University teaching hospital (NAUTH), Nnewi. Ann Clin Lab Res. 2018;6(1):1-4. links/5aa2bb17a6fdccd544b7526e/Haematological-Indices-of-HIV-Seropositive-Subjects-at-Nnamdi-Azikiwe.pdf
23. Omo-Emmanuel UK, Ochei KC, Osuala EO, Obeagu EI, Onwuasoanya UF. Impact of prevention of mother to child transmission (PMTCT) of HIV on positivity rate in Kafanchan, Nigeria. Int. J. Curr. Res. Med. Sci. 2017;3(2): 28-34.DOI: 10.22192/ijcrms.2017.03.02.005
24. Aizaz M, Abbas FA, Abbas A, Tabassum S, Obeagu EI. Alarming rise in HIV cases in Pakistan: Challenges and future recommendations at hand. Health Science Reports. 2023;6(8):e1450.
25. Obeagu EI, Amekpor F, Scott GY. An update of human immunodeficiency virus infection: Bleeding disorders. J Pub Health Nutri. 2023; 6 (1). 2023;139. links/645b4a6c2edb8e5f094d9bd9/An-update-of-human-immunodeficiency-virus-infection-Bleeding.pdf.
26. Obeagu EI, Scott GY, Amekpor F, Ofodile AC, Edoho SH, Ahamefula C. Prevention of New Cases of Human Immunodeficiency Virus: Pragmatic Approaches of Saving Life in Developing Countries. Madonna University journal of Medicine and Health Sciences.

2022;2(3):128-134. https://madonnauniversity.edu.ng/journals/index.php/medicine/article/view/86.

27. Walter O, Anaebo QB, Obeagu EI, Okoroiwu IL. Evaluation of Activated Partial Thromboplastin Time and Prothrombin Time in HIV and TB Patients in Owerri Metropolis. Journal of Pharmaceutical Research International. 2022:29-34.
28. Odo M, Ochei KC, Obeagu EI, Barinaadaa A, Eteng EU, Ikpeme M, Bassey JO, Paul AO. Cascade variabilities in TB case finding among people living with HIV and the use of IPT: assessment in three levels of care in cross River State, Nigeria. Journal of Pharmaceutical Research International. 2020;32(24):9-18.
29. Jakheng SP, Obeagu EI. Seroprevalence of human immunodeficiency virus based on demographic and risk factors among pregnant women attending clinics in Zaria Metropolis, Nigeria. J Pub Health Nutri. 2022; 5 (8). 2022;137. links/6317a6b1acd814437f0ad268/Seroprevalence-of-human-immunodeficiency-virus-based-on-demographic-and-risk-factors-among-pregnant-women-attending-clinics-in-Zaria-Metropolis-Nigeria.pdf.
30. Obeagu EI, Obeagu GU. A Review of knowledge, attitudes and socio-demographic factors associated with non-adherence to antiretroviral therapy among people living with HIV/AIDS. Int. J. Adv. Res. Biol. Sci. 2023;10(9):135-142.DOI: 10.22192/ijarbs.2023.10.09.015 links/6516faa61e2386049de5e828/A-Review-of-knowledge-attitudes-and-socio-demographic-factors-associated-with-non-adherence-to-antiretroviral-therapy-among-people-living-with-HIV-AIDS.pdf
31. Obeagu EI, Onuoha EC. Tuberculosis among HIV Patients: A review of Prevalence and Associated Factors. Int. J. Adv. Res. Biol. Sci. 2023;10(9):128-134.DOI: 10.22192/ijarbs.2023.10.09.014 links/6516f938b0df2f20a2f8b0e0/Tuberculosis-among-HIV-Patients-A-review-of-Prevalence-and-Associated-Factors.pdf.
32. Obeagu EI, Ibeh NC, Nwobodo HA, Ochei KC, Iwegbulam CP. Haematological indices of malaria patients coinfected with HIV in Umuahia. Int. J. Curr. Res. Med. Sci. 2017;3(5):100-104.DOI: 10.22192/ijcrms.2017.03.05.014 https://www.academia.edu/download/54317126/Haematological_indices_of_malaria_patients_coinfected_with_HIV.pdf
33. Jakheng SP, Obeagu EI, Abdullahi IO, Jakheng EW, Chukwueze CM, Eze GC, Essien UC, Madekwe CC, Madekwe CC, Vidya S, Kumar S. Distribution Rate of Chlamydial Infection According to Demographic Factors among Pregnant Women Attending Clinics in Zaria Metropolis, Kaduna State, Nigeria. South Asian Journal of Research in Microbiology. 2022;13(2):26-31.
34. Okorie HM, Obeagu Emmanuel I, Okpoli Henry CH, Chukwu Stella N. Comparative study of enzyme linked immunosorbent assay (Elisa) and rapid test screening methods on HIV, Hbsag, Hcv and Syphilis among voluntary donors in. Owerri, Nigeria. J Clin Commun Med. 2020;2(3):180-183.DOI: **DOI:** 10.32474/JCCM.2020.02.000137 links/5f344530458515b7291bd95f/Comparative-Study-of-Enzyme-Linked-Immunosorbent-Assay-ElISA-and-Rapid-Test-Screening-Methods-on-HIV-HBsAg-HCV-and-Syphilis-among-Voluntary-Donors-in-Owerri-Nigeria.pdf.

35. Ezugwu UM, Onyenekwe CC, Ukibe NR, Ahaneku JE, Onah CE, Obeagu EI, Emeje PI, Awalu JC, Igbokwe GE. Use of ATP, GTP, ADP and AMP as an Index of Energy Utilization and Storage in HIV Infected Individuals at NAUTH, Nigeria: A Longitudinal, Prospective, Case-Controlled Study. Journal of Pharmaceutical Research International. 2021;33(47A):78-84.
36. Emannuel G, Martin O, Peter OS, Obeagu EI, Daniel K. Factors Influencing Early Neonatal Adverse Outcomes among Women with HIV with Post Dated Pregnancies Delivering at Kampala International University Teaching Hospital, Uganda. Asian Journal of Pregnancy and Childbirth. 2023 Jul 29;6(1):203-211. http://research.sdpublishers.net/id/eprint/2819/.
37. Vincent CC, Obeagu EI, Agu IS, Ukeagu NC, Onyekachi-Chigbu AC. Adherence to Antiretroviral Therapy among HIV/AIDS in Federal Medical Centre, Owerri. Journal of Pharmaceutical Research International. 2021;33(57A):360-368.
38. Madekwe CC, Madekwe CC, Obeagu EI. Inequality of monitoring in Human Immunodeficiency Virus, Tuberculosis and Malaria: A Review. Madonna University journal of Medicine and Health Sciences. 2022;2(3):6-15. https://madonnauniversity.edu.ng/journals/index.php/medicine/article/view/69
39. Echendu GE, Vincent CC, Ibebuike J, Asodike M, Naze N, Chinedu EP, Ohale B, Obeagu EI. WEIGHTS OF INFANTS BORN TO HIV INFECTED MOTHERS: A PROSPECTIVE COHORT STUDY IN FEDERAL MEDICAL CENTRE, OWERRI, IMO STATE. European Journal of Pharmaceutical and Medical Research, 2023; 10(8): 564-568
40. Nwosu DC, Nwanjo HU, Okolie NJ, Ikeh K, Ajero CM, Dike J, Ojiegbe GC, Oze GO, Obeagu EI, Nnatunanya I, Azuonwu O. BIOCHEMICAL ALTERATIONS IN ADULT HIV PATIENTS ON ANTIRETRQVIRAL THERAPY. World Journal of Pharmacy and Pharmaceutical Sciences, 2015; 4(3): 153-160**.** links/5a4fd0500f7e9bbc10526b38/BIOCHEMICAL-ALTERATIONS-IN-ADULT-HIV-PATIENTS-ON-ANTIRETRQVIRAL-THERAPY.pdf.
41. Obeagu EI, Obeagu GU. Effect of CD4 Counts on Coagulation Parameters among HIV Positive Patients in Federal Medical Centre, Owerri, Nigeria. Int. J. Curr. Res. Biosci. Plant Biol. 2015;2(4):45-49.
42. Obeagu EI, Nwosu DC. Adverse drug reactions in HIV/AIDS patients on highly active antiretro viral therapy: a review of prevalence. Int. J. Curr. Res. Chem. Pharm. Sci. 2019;6(12):45-8.DOI: 10.22192/ijcrcps.2019.06.12.004 links/650aba1582f01628f0335795/Adverse-drug-reactions-in-HIV-AIDS-patients-on-highly-active-antiretro-viral-therapy-a-review-of-prevalence.pdf.
43. Obeagu EI, Scott GY, Amekpor F, Obeagu GU. Implications of CD4/CD8 ratios in Human Immunodeficiency Virus infections. Int. J. Curr. Res. Med. Sci. 2023;9(2):6-13.DOI: 10.22192/ijcrms.2023.09.02.002 links/645a4a462edb8e5f094ad37c/Implications-of-CD4-CD8-ratios-in-Human-Immunodeficiency-Virus-infections.pdf.
44. Obeagu EI, Ochei KC, Okeke EI, Anode AC. Assessment of the level of haemoglobin and erythropoietin in persons living with HIV in Umuahia. Int. J. Curr. Res. Med. Sci. 2016;2(4):29-33. links/5711c47508aeebe07c02496b/Assessment-of-the-level-of-haemoglobin-and-erythropoietin-in-persons-living-with-HIV-in-Umuahia.pdf.

Citation: Obeagu EI, Mami DM, Obeagu GU. Climate Change as a Driver of HIV Transmission Dynamics: A Review. Elite Journal of HIV, 2024; 2(4): 110-127

45. Ifeanyi OE, Obeagu GU. The Values of CD4 Count, among HIV Positive Patients in FMC Owerri. Int. J. Curr. Microbiol. App. Sci. 2015;4(4):906-910. https://www.academia.edu/download/38320134/Obeagu_Emmanuel_Ifeanyi_and_Obeagu__Getrude_Uzoma.EMMA2.pdf.
46. Obeagu EI, Okeke EI, Anonde Andrew C. Evaluation of haemoglobin and iron profile study among persons living with HIV in Umuahia, Abia state, Nigeria. Int. J. Curr. Res. Biol. Med. 2016;1(2):1-5.
47. Ibebuike JE, Nwokike GI, Nwosu DC, Obeagu EI. A Retrospective Study on Human Immune Deficiency Virus among Pregnant Women Attending Antenatal Clinic in Imo State University Teaching Hospital. *International Journal of Medical Science and Dental Research,* 2018; 1 (2):08-14. https://www.ijmsdr.org/published%20paper/Ii1i2/A%20Retrospective%20Study%20on%20Human%20Immune%20Deficiency%20Virus%20among%20Pregnant%20Women%20Attending%20Antenatal%20Clinic%20in%20Imo%20State%20University%20Teaching%20Hospital.pdf.
48. Obeagu EI, Obarezi TN, Omeh YN, Okoro NK, Eze OB. Assessment of some haematological and biochemical parametrs in HIV patients before receiving treatment in Aba, Abia State, Nigeria. Res J Pharma Biol Chem Sci. 2014; 5:825-830.
49. Obeagu EI, Obarezi TN, Ogbuabor BN, Anaebo QB, Eze GC. Pattern of total white blood cell and differential count values in HIV positive patients receiving treatment in Federal Teaching Hospital Abakaliki, Ebonyi State, Nigeria. International Journal of Life Science, Biotechnology and Pharama Research. 2014; 391:186-189.
50. Obeagu EI. A Review of Challenges and Coping Strategies Faced by HIV/AIDS Discordant Couples. Madonna University journal of Medicine and Health Sciences. 2023; 3 (1): 7-12.
51. Oloro OH, Obeagu EI. A Systematic Review on Some Coagulation Profile in HIV Infection. International Journal of Innovative and Applied Research. 2022;10(5):1-11.
52. Arthur RF, Gurley ES, Salje H, Bloomfield LS, Jones JH. Contact structure, mobility, environmental impact and behaviour: the importance of social forces to infectious disease dynamics and disease ecology. Philosophical Transactions of the Royal Society B: Biological Sciences. 2017;372(1719):20160454.
53. Oramasionwu CU, Daniels KR, Labreche MJ, Frei CR. The environmental and social influences of HIV/AIDS in sub-Saharan Africa: a focus on rural communities. International journal of environmental research and public health. 2011;8(7):2967-2979.
54. Nwosu DC, Obeagu EI, Nkwuocha BC, Nwanna CA, Nwanjo HU, Amadike JN, Ezemma MC, Okpomeshine EA, Ozims SJ, Agu GC. Alterations in superoxide dismutiase, vitamins C and E in HIV infected children in Umuahia, Abia state. International Journal of Advanced Research in Biological Sciences. 2015;2(11):268-271.
55. Ifeanyi OE, Uzoma OG, Stella EI, Chinedum OK, Abum SC. Vitamin D and insulin resistance in HIV sero positive individuals in Umudike. Int. J. Curr. Res. Med. Sci. 2018;4(2):104-108.
56. Ifeanyi OE, Leticia OI, Nwosu D, Chinedum OK. A Review on blood borne viral infections: universal precautions. Int. J. Adv. Res. Biol. Sci. 2018;5(6):60-66.

Citation: Obeagu EI, Mami DM, Obeagu GU. Climate Change as a Driver of HIV Transmission Dynamics: A Review. Elite Journal of HIV, 2024; 2(4): 110-127

57. Nwovu AI, Ifeanyi OE, Uzoma OG, Nwebonyi NS. Occurrence of Some Blood Borne Viral Infection and Adherence to Universal Precautions among Laboratory Staff in Federal Teaching Hospital Abakaliki Ebonyi State. Arch Blood Transfus Disord. 2018;1(2).
58. Chinedu K, Takim AE, Obeagu EI, Chinazor UD, Eloghosa O, Ojong OE, Odunze U. HIV and TB co-infection among patients who used Directly Observed Treatment Short-course centres in Yenagoa, Nigeria. IOSR J Pharm Biol Sci. 2017;12(4):70-75.
59. Offie DC, Obeagu EI, Akueshi C, Njab JE, Ekanem EE, Dike PN, Oguh DN. Facilitators and barriers to retention in HIV care among HIV infected MSM attending Community Health Center Yaba, Lagos Nigeria. Journal of Pharmaceutical Research International. 2021;33(52B):10-19.
60. Obeagu EI, Obeagu GU, Ede MO, Odo EO, Buhari HA. Translation of HIV/AIDS knowledge into behavior change among secondary school adolescents in Uganda: A review. Medicine (Baltimore). 2023;102(49): e36599. doi: 10.1097/MD.0000000000036599. PMID: 38065920; PMCID: PMC10713174.
61. Anyiam AF, Arinze-Anyiam OC, Irondi EA, Obeagu EI. Distribution of ABO and rhesus blood grouping with HIV infection among blood donors in Ekiti State Nigeria. Medicine (Baltimore). 2023;102(47): e36342. doi: 10.1097/MD.0000000000036342. PMID: 38013335; PMCID: PMC10681551.
62. Echefu SN, Udosen JE, Akwiwu EC, Akpotuzor JO, Obeagu EI. Effect of Dolutegravir regimen against other regimens on some hematological parameters, CD4 count and viral load of people living with HIV infection in South Eastern Nigeria. Medicine (Baltimore). 2023;102(47): e35910. doi: 10.1097/MD.0000000000035910. PMID: 38013350; PMCID: PMC10681510.
63. Opeyemi AA, Obeagu EI. Regulations of malaria in children with human immunodeficiency virus infection: A review. Medicine (Baltimore). 2023;102(46): e36166. doi: 10.1097/MD.0000000000036166. PMID: 37986340; PMCID: PMC10659731.
64. Obeagu EI, Obeagu GU, Obiezu J, Ezeonwumelu C, Ogunnaya FU, Ngwoke AO, Emeka-Obi OR,
65. Obeagu EI, Ubosi NI, Uzoma G. Storms and Struggles: Managing HIV Amid Natural Disasters. Int. J. Curr. Res. Chem. Pharm. Sci. 2023;10(11):14-25.
66. Obeagu EI, Obeagu GU. Human Immunodeficiency Virus and tuberculosis infection: A review of prevalence of associated factors. Int. J. Adv. Multidiscip. Res. 2023;10(10):56-62.
67. Obeagu EI, Obeagu GU. Unmasking the Truth: Addressing Stigma in the Fight Against HIV. Elite Journal of Public Health. 2024;2(1):8-22.
68. 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.
69. Obeagu EI, Obeagu GU. Utilization of immunological ratios in HIV: Implications for monitoring and therapeutic strategies. Medicine. 2024;103(9): e37354.
70. Obeagu EI, Obeagu GU. CD8 Dynamics in HIV Infection: A Synoptic Review. Elite Journal of Immunology. 2024;2(1):1-3.

Citation: Obeagu EI, Mami DM, Obeagu GU. Climate Change as a Driver of HIV Transmission Dynamics: A Review. Elite Journal of HIV, 2024; 2(4): 110-127

71. Obeagu EI, Obeagu GU. Implications of B Lymphocyte Dysfunction in HIV/AIDS. Elite Journal of Immunology. 2024;2(1):34-46.
72. Obeagu EI, Obeagu GU. Maternal Influence on Infant Immunological Responses to HIV: A Review. Elite Journal of Laboratory Medicine. 2024;2(1):46-58.
73. Obeagu EI, Obeagu GU. Understanding B Lymphocyte Functions in HIV Infection: Implications for Immune Dysfunction and Therapeutic Strategies. Elite Journal of Medicine. 2024;2(1):35-46.
74. Obeagu EI, Obeagu GU. Platelet-Driven Modulation of HIV: Unraveling Interactions and Implications. Journal home page: http://www. journalijiar. com.;12(01).
75. Obeagu EI, Anyiam AF, Obeagu GU. Managing Hematological Complications in HIV: Erythropoietin Considerations. Elite Journal of HIV. 2024;2(1):65-78.
76. Obeagu EI, Obeagu GU, Hauwa BA, Umar AI. Hematocrit Variations in HIV Patients Co-infected with Malaria: A Comprehensive Review. Journal home page: http://www. journalijiar. com.;12(01).
77. Obeagu EI, 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.
78. Obeagu EI, Anyiam AF, Obeagu GU. Unveiling B Cell Mediated Immunity in HIV Infection: Insights, Challenges, and Potential Therapeutic Avenues. Elite Journal of HIV. 2024;2(1):1-5.
79. 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.
80. Obeagu EI, Obeagu GU. Transfusion Therapy in HIV: Risk Mitigation and Benefits for Improved Patient Outcomes. Sciences. 2024;4(1):32-7.
81. Obeagu EI, Obeagu GU. Mental Health and Psychosocial Effects of natural disaster on HIV Patients. Sciences. 2024;4(1):38-44.
82. Obeagu EI, Obeagu GU. Eosinophil-Associated Changes in Neonatal Thymic T Regulatory Cell Populations in HIV-Infected Pregnancies. Elite Journal of Health Science. 2024;2(1):33-42.
83. Obeagu EI, Obeagu GU. Advances in Understanding the Impact of Blood Transfusion on Anemia Resolution in HIV-Positive Children with Severe Malaria: A Comprehensive Review. Elite Journal of Haematology. 2024;2(1):26-41.
84. Obeagu EI, Ayogu EE, Obeagu GU. Interactions between Blood Transfusion and Antiretroviral Medications: Implications for Patient Care. Elite Journal of Medicine. 2024;2(2):104-15.
85. Obeagu EI, Obeagu GU. Maternal Eosinophilic Responses in HIV-Positive Pregnant Women: Unraveling Immunological Dynamics for Improved Maternal-Fetal Health. Elite Journal of Immunology. 2024;2(1):47-64.
86. Obeagu EI, Anyanwu CN, Obeagu GU. Challenges and Considerations in Managing Blood Transfusion for Individuals with HIV. Elite Journal of HIV. 2024;2(2):1-7.
87. 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.
88. Obeagu EI, Obeagu GU. Understanding Hematocrit Fluctuations in HIV-Malaria Coinfection for Improved Management. Elite Journal of Public Health. 2024;2(1):22-34.

Citation: Obeagu EI, Mami DM, Obeagu GU. Climate Change as a Driver of HIV Transmission Dynamics: A Review. Elite Journal of HIV, 2024; 2(4): 110-127

89. Obeagu EI, Obeagu GU. The Impact of Erythropoietin on Preeclampsia in HIV-Positive Women: A Review. Elite Journal of Nursing and Health Science. 2024;2(1):21-31.
90. Obeagu EI, Obeagu GU. Platelet Distribution Width (PDW) as a Prognostic Marker for Anemia Severity in HIV Patients: A Comprehensive Review. Journal home page: http://www. journalijiar. com.;12(01).
91. Obeagu EI, Obeagu GU. Neonatal Outcomes in Children Born to Mothers with Severe Malaria, HIV, and Transfusion History: A Review. Elite Journal of Nursing and Health Science. 2024;2(3):38-58.
92. Obeagu EI, Obeagu GU. Assessing Platelet Functionality in HIV Patients Receiving Antiretroviral Therapy: Implications for Risk Assessment. Elite Journal of HIV. 2024;2(3):14-26.
93. Obeagu EI, Obeagu GU. Advancements in HIV Prevention: Africa's Trailblazing Initiatives and Breakthroughs. Elite Journal of Public Health. 2024;2(1):52-63.
94. Obeagu EI, Obeagu GU. Maternal Influence on Infant Immunological Responses to HIV: A Review. Elite Journal of Laboratory Medicine. 2024;2(1):46-58.
95. Obeagu EI, Obeagu GU. Counting Cells, Shaping Fates: CD4/CD8 Ratios in HIV. Elite Journal of Scientific Research and Review. 2024;2(1):37-50.
96. Obeagu EI, Anyiam AF, Obeagu GU. Managing Hematological Complications in HIV: Erythropoietin Considerations. Elite Journal of HIV. 2024;2(1):65-78.
97. 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.
98. Obeagu EI, Ayogu EE, Obeagu GU. Impact on Viral Load Dynamics: Understanding the Interplay between Blood Transfusion and Antiretroviral Therapy in HIV Management. Elite Journal of Nursing and Health Science. 2024;2(2):5-15.
99. Obeagu EI, Obeagu GU. Understanding B Lymphocyte Functions in HIV Infection: Implications for Immune Dysfunction and Therapeutic Strategies. Elite Journal of Medicine. 2024;2(1):35-46.
100. Obeagu EI, Anyanwu CN, Obeagu GU. Challenges and Considerations in Managing Blood Transfusion for Individuals with HIV. Elite Journal of HIV. 2024;2(2):1-7.
101. Obeagu EI, Obeagu GU. Understanding ART and Platelet Functionality: Implications for HIV Patients. Elite Journal of HIV. 2024;2(2):60-73.
102. Obeagu EI, Obeagu GU. The Role of Blood Transfusion Strategies in HIV Management: Current Insights and Future Directions. Elite Journal of Medicine. 2024;2(1):10-22.
103. Obeagu EI, AmaezeAA O, Obeagu GU. B Cell Deficiency and Implications in HIV Pathogenesis: Unraveling the Complex Interplay. Elite Journal of Nursing and Health Science. 2024;2(2):33-46.
104. Obeagu EI, Obeagu GU. Eosinophil Dynamics in Pregnancy among Women Living with HIV: A Comprehensive Review. Int. J. Curr. Res. Med. Sci. 2024;10(1):11-24.

105. 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.
106. Obeagu EI, Obeagu GU. Unveiling the Role of Innate Immune Activation in Pediatric HIV: A Review. Elite Journal of Immunology. 2024;2(3):33-44.
107. Obeagu EI, Obeagu GU. Harnessing B Cell Responses for Personalized Approaches in HIV Management. Elite Journal of Immunology. 2024;2(2):15-28.
108. Obeagu EI, Obeagu GU, Hauwa BA, Umar AI. Neutrophil Dynamics: Unveiling Their Role in HIV Progression within Malaria Patients. Journal home page: http://www. journalijiar. com.;12(01).
109. Obeagu EI, Obeagu GU, Hauwa BA, Umar AI. Hematocrit Variations in HIV Patients Co-infected with Malaria: A Comprehensive Review. Journal home page: http://www. journalijiar. com.;12(01).
110. Obeagu EI, Anyiam AF, Obeagu GU. Managing Anemia in HIV through Blood Transfusions: Clinical Considerations and Innovations. Elite Journal of HIV. 2024;2(1):16-30.
111. Obeagu EI, Obeagu GU. Maternal Eosinophilic Responses in HIV-Positive Pregnant Women: Unraveling Immunological Dynamics for Improved Maternal-Fetal Health. Elite Journal of Immunology. 2024;2(1):47-64.
112. Obeagu EI, Obeagu GU. Platelet Aberrations in HIV Patients: Assessing Impacts of ART. Elite Journal of Haematology, 2024; 2 (3).:10-24.
113. Obeagu EI, Obeagu GU. Hematological Changes Following Blood Transfusion in Young Children with Severe Malaria and HIV: A Critical Review. Elite Journal of Laboratory Medicine. 2024;2(1):33-45.
114. Obeagu EI, Anyiam AF, Obeagu GU. Erythropoietin Therapy in HIV-Infected Individuals: A Critical Review. Elite Journal of HIV. 2024;2(1):51-64.
115. 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.
116. Obeagu EI, Obeagu GU. The Crucial Role of Erythropoietin in Managing Anemia in HIV: A Review. Elite Journal of Scientific Research and Review. 2024;2(1):24-36.
117. Obeagu EI, Obeagu GU. Impact of Maternal Eosinophils on Neonatal Immunity in HIV-Exposed Infants: A Review. Elite Journal of Immunology. 2024;2(3):1-8.
118. Obeagu EI, Anyiam AF, Obeagu GU. Unveiling B Cell Mediated Immunity in HIV Infection: Insights, Challenges, and Potential Therapeutic Avenues. Elite Journal of HIV. 2024;2(1):1-5.
119. Obeagu EI, Obeagu GU. Anemia and Erythropoietin: Key Players in HIV Disease Progression. Elite Journal of Haematology, 2024; 2 (3).:42-57.
120. Obeagu EI, Obeagu GU. Platelet Dysfunction in HIV Patients: Assessing ART Risks. Elite Journal of Scientific Research and Review. 2024;2(1):1-6.
121. 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.

122. Obeagu EI, Obeagu GU. Transfusion Therapy in HIV: Risk Mitigation and Benefits for Improved Patient Outcomes. Sciences. 2024;4(1):32-7.
123. Obeagu EI, Obeagu GU. P-Selectin and Immune Activation in HIV: Clinical Implications. Elite Journal of Health Science. 2024;2(2):16-29.
124. Obeagu EI, Obeagu GU. Mental Health and Psychosocial Effects of natural disaster on HIV Patients. Sciences. 2024;4(1):38-44.
125. 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):1-7.
126. Obeagu EI, Obeagu GU. Advances in Understanding the Impact of Blood Transfusion on Anemia Resolution in HIV-Positive Children with Severe Malaria: A Comprehensive Review. Elite Journal of Haematology. 2024;2(1):26-41.
127. Obeagu EI, Obeagu GU. Transfusion-Related Complications in Children Under 5 with Coexisting HIV and Severe Malaria: A Review. Int. J. Curr. Res. Chem. Pharm. Sci. 2024;11(2):9-19.
128. Obeagu EI, Obeagu GU. Impact of Blood Transfusion on Viral Load Dynamics in HIV-Positive Neonates with Severe Malaria: A Review. Elite Journal of Scientific Research and Review. 2024;2(1):42-60.
129. Obeagu EI, Ayogu EE, Obeagu GU. Interactions between Blood Transfusion and Antiretroviral Medications: Implications for Patient Care. Elite Journal of Medicine. 2024;2(2):104-5.
130. Obeagu EI, Obeagu GU. P-Selectin Expression in HIV-Associated Coagulopathy: Implications for Treatment. Elite Journal of Haematology, 2024; 2 (3).:25-41.
131. Obeagu EI, Obeagu GU. Eosinophil-Associated Changes in Neonatal Thymic T Regulatory Cell Populations in HIV-Infected Pregnancies. Elite Journal of Health Science. 2024;2(1):33-42.
132. Obeagu EI, Obeagu GU. Exploring the Role of L-selectin in HIV-related Immune Exhaustion: Insights and Therapeutic Implications. Elite Journal of HIV. 2024;2(2):43-59.
133. Obeagu EI. Erythropoietin and the Immune System: Relevance in HIV Management. Elite Journal of Health Science. 2024;2(3):23-35.
134. Obeagu EI, Obeagu GU. The Impact of Erythropoietin on Preeclampsia in HIV-Positive Women: A Review. Elite Journal of Nursing and Health Science. 2024;2(1):21-31.
135. Obeagu EI, Obeagu GU. Unraveling the Role of Eosinophil Extracellular Traps (EETs) in HIV-Infected Pregnant Women: A Review. Elite Journal of Nursing and Health Science. 2024;2(3):84-99.
136. 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.
137. Obeagu EI, Obeagu GU. L-selectin and HIV-Induced Immune Cell Trafficking: Implications for Pathogenesis and Therapeutic Strategies. Elite Journal of Laboratory Medicine. 2024;2(2):30-46.

Citation: Obeagu EI, Mami DM, Obeagu GU. Climate Change as a Driver of HIV Transmission Dynamics: A Review. Elite Journal of HIV, 2024; 2(4): 110-127

138. Obeagu EI, Obeagu GU. The Intricate Relationship Between Erythropoietin and HIV-Induced Anemia: Unraveling Pathways for Therapeutic Insights. Int. J. Curr. Res. Chem. Pharm. Sci. 2024;11(2):30-40.
139. 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.
140. Kalu OA, Ukibe NR, Onyenekwe CC, Okoyeagu RC, Nnaemeka WS, Onyenekwe AJ, Ukibe EG, Ukibe BC, Ukibe VE, Obeagu EI. Assessment of Serum Cystatin C, Microalbumin Levels and Egfr in HIV Seropositive Individuals based on Age and Gender in NAUTH, Nnewi, Nigeria. Elite Journal of Medicine. 2024;2(3):48-59.
141. 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.
142. Obeagu EI, Obeagu GU. Eosinophilic Changes in Placental Tissues of HIV-Positive Pregnant Women: A Review. Elite Journal of Laboratory Medicine. 2024;2(1):14-32.
143. Obeagu EI, Obeagu GU. P-Selectin and Platelet Activation in HIV: Implications for Antiviral Therapy. Elite Journal of Scientific Research and Review. 2024;2(1):17-41.
144. Obeagu EI, Obeagu GU. Strength in Unity: Building Support Networks for HIV Patients in Uganda. Elite Journal of Medicine. 2024;2(1):1-6.
145. Obeagu EI, GU EE. Understanding the Intersection of Highly Active Antiretroviral Therapy and Platelets in HIV Patients: A Review. Elite Journal of Haematology, 2024; 2 (3).:111-117.
146. Brault MA, Vermund SH, Aliyu MH, Omer SB, Clark D, Spiegelman D. Leveraging HIV care Infrastructures for integrated chronic disease and pandemic management in sub-Saharan Africa. International journal of environmental research and public health. 2021;18(20):10751.
147. Schwartländer B, Stover J, Hallett T, Atun R, Avila C, Gouws E, Bartos M, Ghys PD, Opuni M, Barr D, Alsallaq R. Towards an improved investment approach for an effective response to HIV/AIDS. The Lancet. 2011;377(9782):2031-2041.
148. Watkins-Hayes C. Intersectionality and the sociology of HIV/AIDS: Past, present, and future research directions. Annual Review of Sociology. 2014; 40:431-457.
149. Nyasimi M, Ayanlade A, Mungai C, Derkyi M, Jegede MO. Inclusion of gender in Africa's climate change policies and strategies. Handbook of Climate Change Communication: Vol. 1: Theory of Climate Change Communication. 2018:171-85.
150. Braaf R. Addressing the intersections of climate change, energy, environmental degradation and gender-based violence. Prepared for the United Nations Development Programme. Accessed on November. 2016; 12:2022.

Citation: Obeagu EI, Mami DM, Obeagu GU. Climate Change as a Driver of HIV Transmission Dynamics: A Review. Elite Journal of HIV, 2024; 2(4): 110-127