

Securing Health: The Role of Early Infant Diagnosis in Preventing HIV in Newborns

*Emmanuel Ifeanyi Obeagu¹ and Getrude Uzoma Obeagu²

¹Department of Medical Laboratory Science, Kampala International University, Uganda

²School of Nursing Science, Kampala International University, Uganda

*Corresponding authour: Emmanuel Ifeanyi Obeagu, [Department of Medical Laboratory Science, Kampala International University, Uganda, emmanuelobeagu@yahoo.com, ORCID: 0000-0002-4538-0161](#)

Abstract

Preventing the transmission of HIV from mother to child is a critical global health priority, particularly in regions with high prevalence rates. Early Infant Diagnosis (EID) plays a pivotal role in this endeavor by enabling the timely identification of HIV-exposed infants and facilitating prompt initiation of antiretroviral therapy (ART) and other interventions. This paper explores the significance of EID in preventing HIV transmission in newborns, highlighting its importance, challenges, and emerging strategies. By examining current literature and innovations in the field, this review underscores the crucial role of EID as a cornerstone of prevention efforts and its potential to secure the health of newborns and future generations from the devastating impact of HIV/AIDS.

Keywords: *Early Infant Diagnosis, HIV Prevention, Mother-to-Child Transmission, Pediatric HIV, Antiretroviral Therapy, Public Health*

Introduction

Preventing the transmission of HIV from mother to child is a paramount objective in global health, especially in regions where HIV prevalence rates are high. Early Infant Diagnosis (EID) emerges as a crucial tool in this endeavor, facilitating the timely identification of HIV-exposed infants and enabling prompt initiation of interventions. By detecting HIV infection early in infancy, EID programs play a vital role in averting disease progression, diminishing infant mortality rates, and curtailing the transmission of the virus within communities. This introduction sets the stage for an

Citation: Obeagu EI, Obeagu GU. Securing Health: The Role of Early Infant Diagnosis in Preventing HIV in Newborns. Elite Journal of Public Health, 2023; 1 (1): 47-57

in-depth exploration of the significance of EID in preventing HIV transmission in newborns, highlighting its critical role, persistent challenges, and promising innovations. The significance of Early Infant Diagnosis within the framework of Prevention of Mother-to-Child Transmission (PMTCT) programs cannot be overstated. EID ensures that healthcare providers can identify HIV-exposed infants shortly after birth, facilitating the timely initiation of antiretroviral therapy (ART) and other essential interventions. This early detection not only enhances the health outcomes of HIV-infected infants but also mitigates the risk of mother-to-child transmission, contributing significantly to the reduction of vertical transmission rates and the achievement of global targets for HIV prevention and treatment.¹⁻¹⁵

However, despite its importance, universal access to EID services remains a substantial challenge in many regions, particularly those with limited resources. Shortcomings in healthcare infrastructure, deficits in trained personnel, and logistical barriers hinder the effective delivery of EID services to all infants in need. Addressing these challenges requires coordinated efforts from governments, healthcare providers, and international stakeholders to bolster healthcare systems and enhance access to EID services. Emerging strategies and innovations offer promise in overcoming the existing barriers to EID access and effectiveness. Technologies such as point-of-care testing devices and dried blood spot sampling enable decentralized testing and improve access to EID services, particularly in remote or underserved areas. Additionally, telemedicine interventions and community-based approaches enhance the reach and efficiency of EID programs, providing remote support and facilitating engagement with vulnerable populations.¹⁵⁻²⁵

Significance of Early Infant Diagnosis in Preventing Mother-to-Child Transmission

Early Infant Diagnosis (EID) holds immense significance in preventing mother-to-child transmission (MTCT) of HIV, playing a pivotal role in ensuring the health and well-being of both mothers and their newborns. EID allows for the prompt identification of infants born to HIV-positive mothers, enabling healthcare providers to initiate appropriate interventions promptly. By diagnosing HIV infection early in infancy, EID programs ensure that HIV-exposed infants receive timely medical care and support, reducing the risk of disease progression and improving health outcomes. Early diagnosis through EID enables healthcare providers to initiate antiretroviral therapy (ART) promptly in HIV-infected infants. Timely initiation of ART is crucial for suppressing viral replication, preserving immune function, and reducing the risk of disease progression. Moreover, early treatment initiation significantly reduces the risk of MTCT during breastfeeding and subsequent pregnancies. EID plays a critical role in preventing disease progression and reducing mortality rates among HIV-infected infants. By identifying HIV infection early in life, EID programs enable healthcare providers to monitor disease progression, manage opportunistic infections, and provide supportive care, ultimately improving survival outcomes for HIV-infected infants. Early diagnosis through EID is essential for interrupting the chain of transmission of HIV from mother to child. By identifying HIV-infected infants early in life and initiating appropriate interventions, EID programs reduce the likelihood of onward transmission of the virus within families and communities. Timely diagnosis and treatment of HIV-infected infants contribute to the broader goal of reducing the overall burden of HIV/AIDS.

Citation: Obeagu EI, Obeagu GU. Securing Health: The Role of Early Infant Diagnosis in Preventing HIV in Newborns. Elite Journal of Public Health, 2023; 1 (1): 47-57

and advancing efforts towards an AIDS-free generation. EID is an integral component of Prevention of Mother-to-Child Transmission (PMTCT) programs, which aim to reduce the risk of HIV transmission from mother to child during pregnancy, childbirth, and breastfeeding. By ensuring the early identification of HIV-exposed infants and facilitating their access to comprehensive care and treatment services, EID programs strengthen PMTCT efforts and contribute to achieving global targets for HIV prevention and treatment.²⁶⁻⁵⁰

Challenges in Universal Access to EID Services

Universal access to Early Infant Diagnosis (EID) services remains a significant challenge, particularly in resource-limited settings where the burden of HIV/AIDS is most acute. Many regions, especially in low-income countries, lack adequate healthcare infrastructure to support comprehensive EID programs. This includes shortages of healthcare facilities, trained personnel, and laboratory equipment necessary for conducting diagnostic tests. In rural or remote areas, the scarcity of healthcare facilities further exacerbates the challenge of accessing EID services. Shortages of trained healthcare personnel, including laboratory technicians, nurses, and clinicians, pose a significant barrier to the provision of EID services. In many resource-limited settings, healthcare workers are overburdened and may lack the necessary training to conduct EID testing and provide appropriate care to HIV-exposed infants. Addressing human resource constraints requires investment in training programs and workforce development initiatives to build capacity in EID service delivery. Logistical barriers, such as sample transportation and laboratory processing times, can delay the delivery of test results and impede timely diagnosis and treatment initiation for HIV-exposed infants. Inadequate transportation networks, lack of cold chain storage facilities, and lengthy turnaround times for test results can hinder the effectiveness of EID programs, particularly in remote or rural areas where access to healthcare services is limited. Social stigma surrounding HIV/AIDS remains a significant barrier to EID uptake, particularly in communities where HIV-related discrimination and prejudice are prevalent. Fear of disclosure, misconceptions about HIV/AIDS, and cultural beliefs may deter caregivers from seeking EID testing for their infants or adhering to treatment recommendations. Addressing social and cultural barriers requires targeted community engagement and education efforts to promote awareness, acceptance, and uptake of EID services. Financial barriers, including out-of-pocket costs for testing and treatment, can pose challenges for caregivers seeking EID services for their infants. In many resource-limited settings, healthcare services are not fully covered by public health insurance schemes, leaving families to bear the financial burden of healthcare costs. Addressing financial constraints requires policy interventions to ensure that EID services are affordable and accessible to all families, regardless of socioeconomic status.⁵¹⁻⁵⁵

Emerging Strategies and Innovations

Emerging strategies and innovations are pivotal in addressing the challenges associated with Early Infant Diagnosis (EID) of HIV and expanding access to testing services. These advancements aim to enhance the accessibility, accuracy, and efficiency of EID programs, particularly in resource-limited settings. Point-of-Care Testing (POCT) Devices enable rapid and on-site testing for HIV

Citation: Obeagu EI, Obeagu GU. Securing Health: The Role of Early Infant Diagnosis in Preventing HIV in Newborns. Elite Journal of Public Health, 2023; 1 (1): 47-57

infection, eliminating the need for centralized laboratory facilities and reducing turnaround times for test results. These portable devices are user-friendly and require minimal training, making them suitable for deployment in primary healthcare settings, community clinics, and remote areas. By providing immediate results, POCT devices facilitate prompt diagnosis and treatment initiation, improving patient outcomes and reducing the burden on healthcare infrastructure. Dried Blood Spot (DBS) Sampling involves collecting a small volume of blood onto filter paper, which can be easily transported and stored at room temperature. DBS samples are stable for extended periods, making them ideal for EID testing in resource-limited settings where access to cold chain storage may be limited. DBS sampling offers a convenient and cost-effective alternative to traditional venous blood collection, enabling decentralized testing and improving access to EID services, particularly in remote or rural areas.⁵⁶⁻⁶⁰

Telemedicine and mHealth interventions leverage mobile technology and digital platforms to provide remote consultation, monitoring, and support for EID programs. These interventions enable healthcare providers to access expert guidance, share diagnostic information, and communicate with caregivers in real-time, regardless of geographic location. By expanding access to expert care and support, telemedicine and mHealth interventions improve the efficiency and effectiveness of EID services, particularly in underserved communities. Digital health solutions, such as electronic medical record (EMR) systems and health information exchange platforms, enhance data management and program coordination for EID programs. EMR systems enable healthcare providers to document, store, and retrieve patient data and test results electronically, streamlining workflow and improving data accuracy and accessibility. Health information exchange platforms facilitate the seamless exchange of patient information between healthcare facilities, ensuring continuity of care and improving communication among healthcare providers. Community-based approaches involve engaging community health workers and peer educators in EID programs to provide education, counseling, and support to HIV-infected infants and their families. These frontline healthcare workers play a crucial role in raising awareness about the importance of EID, facilitating linkage to care, and addressing social and cultural barriers to testing and treatment. By leveraging community resources and networks, community-based approaches enhance the reach and effectiveness of EID programs, particularly in hard-to-reach populations.⁶¹⁻⁶⁹

Conclusion

The field of Early Infant Diagnosis (EID) of HIV has witnessed significant advancements in recent years, driven by emerging strategies and innovations aimed at overcoming longstanding challenges and improving access to testing services. These innovations, ranging from point-of-care testing devices to community-based approaches, hold immense promise in strengthening EID programs and safeguarding the health of HIV-exposed infants. By leveraging point-of-care testing devices and dried blood spot sampling, EID programs can decentralize testing and reach underserved populations, enabling timely diagnosis and treatment initiation. Telemedicine interventions and mobile health (mHealth) technologies enhance access to expert care and support, particularly in remote or rural areas where healthcare infrastructure is limited. Digital health solutions, such as

Citation: Obeagu EI, Obeagu GU. Securing Health: The Role of Early Infant Diagnosis in Preventing HIV in Newborns. Elite Journal of Public Health, 2023; 1 (1): 47-57

electronic medical record systems and health information exchange platforms, improve data management and program coordination, ensuring continuity of care and enhancing communication among healthcare providers. Furthermore, community-based approaches engage frontline healthcare workers and peer educators in EID programs, addressing social and cultural barriers to testing and treatment and improving uptake among vulnerable populations. By leveraging community resources and networks, these approaches enhance the reach and effectiveness of EID programs, ultimately contributing to the goal of an AIDS-free generation.

References

1. Shrivastava R, Fonjungo PN, Kebede Y, Bhimaraj R, Zavahir S, Mwangi C, Gadde R, Alexander H, Riley PL, Kim A, Nkengasong JN. Role of public-private partnerships in achieving UNAIDS HIV treatment targets. *BMC health services research*. 2019; 19:1-10.
2. Kiyaga C, Narayan V, McConnell I, Elyanu P, Kisaakye LN, Joseph E, Kekitiinwa A, Grosz J. Uganda's "EID Systems Strengthening" model produces significant gains in testing, linkage, and retention of HIV-exposed and infected infants: an impact evaluation. *Plos one*. 2021;16(2): e0246546.
3. Abrams EJ, Strasser S. 90-90-90—Charting a steady course to end the paediatric HIV epidemic. *Journal of the International AIDS Society*. 2015; 18:20296.
4. 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.
5. 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>.
6. 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](https://doi.org/10.22192/ijcrms.2017.03.01.004).
7. 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.
8. 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](https://doi.org/10.22192/ijcrms.2017.03.01.004)
9. 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](https://doi.org/10.22192/ijcrms.2017.03.01.004).
10. 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

Citation: Obeagu EI, Obeagu GU. Securing Health: The Role of Early Infant Diagnosis in Preventing HIV in Newborns. *Elite Journal of Public Health*, 2023; 1 (1): 47-57

- Health Center Yaba, Lagos Nigeria. Journal of Pharmaceutical Research International. 2021;33(52B):10-19.
11. 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.
 12. 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.
 13. Obeagu EI, Eze VU, Alaebob 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](https://www.academia.edu/download/38320140/Obeagu_Emanuel_Ifeanyi_and_Obeagu_Getrude_Uzoma2.EMMA1.pdf).
 14. 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](https://www.academia.edu/download/38320140/Obeagu_Emanuel_Ifeanyi_and_Obeagu_Getrude_Uzoma2.EMMA1.pdf).
 15. 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](https://doi.org/10.22192/ijarbs.2016.03.10.009)
 16. 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](https://www.academia.edu/download/38320140/Obeagu_Emanuel_Ifeanyi_and_Obeagu_Getrude_Uzoma2.EMMA1.pdf)
 17. 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.
 18. Nwosu DC, Obeagu EI, Nkwocha BC, Nwanja 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](https://www.academia.edu/download/38320140/Obeagu_Emanuel_Ifeanyi_and_Obeagu_Getrude_Uzoma2.EMMA1.pdf).
 19. 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.IJC RAR.pdf](https://www.academia.edu/download/38320159/Obeagu_Emanuel_Ifeanyi3_et_al.IJC_RAR.pdf).

Citation: Obeagu EI, Obeagu GU. Securing Health: The Role of Early Infant Diagnosis in Preventing HIV in Newborns. Elite Journal of Public Health, 2023; 1 (1): 47-57

20. 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](https://doi.org/10.22192/ijcrms.2017.03.02.005)
21. 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
22. 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.
23. 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](https://doi.org/10.22192/ijcrms.2017.03.02.005).
24. 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>.
25. 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.
26. 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.
27. 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](https://doi.org/10.22192/ijcrms.2017.03.02.005).
28. 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](https://doi.org/10.22192/ijarbs.2023.10.09.015)
29. 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:

Citation: Obeagu EI, Obeagu GU. Securing Health: The Role of Early Infant Diagnosis in Preventing HIV in Newborns. Elite Journal of Public Health, 2023; 1 (1): 47-57

- [10.22192/ijarbs.2023.10.09.014](#) [links/6516f938b0df2f20a2f8b0e0/Tuberculosis-among-HIV-Patients-A-review-of-Prevalence-and-Associated-Factors.pdf](#).
30. Obeagu EI, Ibeh NC, Nwobodo HA, Ochei KC, Iwegbulam CP. Haematological indices of malaria patients coinfectd 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_coinfectd_with_HIV.pdf
 31. 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.
 32. 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](#).
 33. 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.
 34. 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/>.
 35. 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.
 36. 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>
 37. Echendu GE, Vincent CC, Ibebuikwe 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
 38. 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 ANTIRETROVIRAL THERAPY. World Journal of Pharmacy and

Citation: Obeagu EI, Obeagu GU. Securing Health: The Role of Early Infant Diagnosis in Preventing HIV in Newborns. Elite Journal of Public Health, 2023; 1 (1): 47-57

- Pharmaceutical Sciences, 2015; 4(3): 153-160.
[links/5a4fd0500f7e9bbc10526b38/BIOCHEMICAL-ALTERATIONS-IN-ADULT-HIV-PATIENTS-ON-ANTIRETROVIRAL-THERAPY.pdf](#).
39. 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.
 40. 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/ijcrps.2019.06.12.004](#)
[links/650aba1582f01628f0335795/Adverse-drug-reactions-in-HIV-AIDS-patients-on-highly-active-antiretro-viral-therapy-a-review-of-prevalence.pdf](#).
 41. 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](#).
 42. 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](#).
 43. 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](https://www.academia.edu/download/38320134/Obeagu_Emanuel_Ifeanyi_and_Obeagu_Getrude_Uzoma.EMMA2.pdf).
 44. 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.
 45. Ibebuikie 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/li1i2/A%20Retrospective%20Study%20on%20Human%20Immune%20Deficiency%20Virus%20among%20Pregnant%20Women%20Attending%20Antenatal%20Clinic%20in%20Imo%20State%20University%20Teaching%20Hospital.pdf>.
 46. 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.
 47. 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.

48. 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.
49. 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.
50. Nwosu DC, Obeagu EI, Nkwuocha BC, Nwanna CA, Nwanjo HU, Amadike JN, Ezemma MC, Okpomeshine EA, Ozims SJ, Agu GC. Alterations in superoxide dismutase, 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.
51. 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.
52. 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.
53. 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).
54. 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.
55. 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.
56. 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.00000000000036599. PMID: 38065920; PMCID: PMC10713174.
57. Anyiam AF, Arinze-Anyiam OC, Ironi 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.00000000000036342. PMID: 38013335; PMCID: PMC10681551.
58. 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.00000000000035910. PMID: 38013350; PMCID: PMC10681510.
59. 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.00000000000036166. PMID: 37986340; PMCID: PMC10659731.

60. Obeagu EI, Obeagu GU, Obiezu J, Ezeonwumelu C, Ogunnaya FU, Ngwoke AO, Emeka-Obi OR, 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.
61. 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.
62. 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.
63. Katoba J, Kuupiel D, Mashamba-Thompson TP. Toward improving accessibility of point-of-care diagnostic services for maternal and child health in low-and middle-income countries. *Point of care.* 2019;18(1):17-25.
64. Sallam M, Alabbadi AM, Abdel-Razeq S, Battah K, Malkawi L, Al-Abbadi MA, Mahafzah A. HIV knowledge and stigmatizing attitude towards people living with HIV/AIDS among medical students in Jordan. *International Journal of Environmental Research and Public Health.* 2022;19(2):745.
65. Nayak S, Blumenfeld NR, Laksanasopin T, Sia SK. Point-of-care diagnostics: recent developments in a connected age. *Analytical chemistry.* 2017;89(1):102-123.
66. Kang T, Lu J, Yu T, Long Y, Liu G. Advances in nucleic acid amplification techniques (NAATs): COVID-19 point-of-care diagnostics as an example. *Biosensors and Bioelectronics.* 2022; 206:114109.
67. Obeagu EI, Obeagu GU. Early Infant Diagnosis: A Crucial Step in Halting HIV Transmission. *Elite Journal of Health Science,* 2023; 1(1):1-11
68. Obeagu EI, Obeagu GU. Early Infant Diagnosis: Shielding Infants from HIV Transmission. *Elite Journal of Health Science,* 2023; 1(1):12-22
69. Obeagu EI, Obeagu GU. Protecting Generations: Early Infant Diagnosis's Role in Preventing HIV Spread. *Elite Journal of Public Health,* 2023; 1 (1): 1-11