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Optimizing Blood Transfusion Protocols for Breast Cancer Patients Living with HIV: A Comprehensive Review

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Abstract

This comprehensive review addresses the intricate challenges surrounding blood transfusion protocols for breast cancer patients living with HIV. The coexistence of these two conditions introduces unique hematologic complications, necessitating a nuanced approach to optimize transfusion strategies. The review delves into the spectrum of hematologic complications, exploring anemia, thrombocytopenia, and neutropenia, while critically analyzing current transfusion practices. Additionally, emerging strategies, such as individualized thresholds and advanced transfusion technologies, are examined. By synthesizing existing knowledge and recent developments, this review aims to contribute valuable insights into refining blood transfusion protocols, ultimately enhancing patient outcomes for this complex and vulnerable population.

Keywords*: Blood transfusion, Breast cancer, HIV, Optimizing protocols, Transfusion guidelines, Hematologic complications, Patient outcomes*

Introduction

Breast cancer and HIV represent formidable health challenges, each demanding a distinctive approach to diagnosis, treatment, and care.[1-2] The convergence of these two conditions introduces a complex clinical scenario, particularly in the management of hematologic complications and the optimization of blood transfusion protocols. Breast cancer is a prevalent malignancy affecting millions of women globally, and its incidence is further complicated when occurring in individuals living with HIV. The immunocompromised state associated with HIV can exacerbate the hematologic complications commonly encountered in breast cancer patients, necessitating a specialized and integrative approach to their care. Hematologic abnormalities, including anemia, thrombocytopenia, and neutropenia, are frequently observed in breast cancer patients. When compounded by the immunosuppressive effects of HIV, the challenges in addressing these complications become multifaceted. Blood transfusions play a pivotal role in managing these hematologic issues, and optimizing transfusion protocols becomes paramount in ensuring effective

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and safe patient care. The interplay between breast cancer and HIV presents a unique set of challenges, requiring healthcare professionals to navigate the complexities of both diseases to deliver comprehensive and patient-centered transfusion strategies.[3-20]

Current blood transfusion practices for breast cancer patients living with HIV are diverse and are shaped by various factors, including clinical guidelines, transfusion triggers, and institutional protocols. This diversity underscores the need for a critical examination of existing practices to identify areas for improvement and innovation. Moreover, blood product shortages and challenges related to accessibility further complicate the landscape, necessitating a closer look at strategies to ensure consistent and equitable access to transfusion services for this vulnerable population. As medical science advances, so do the opportunities for refining and enhancing blood transfusion protocols. Emerging strategies, such as individualized transfusion thresholds, the use of erythropoiesis-stimulating agents, and advancements in transfusion medicine technologies, offer promising avenues for optimization. [21-35] This review seeks to provide a comprehensive analysis of current practices and emerging strategies, with the ultimate goal of improving patient outcomes for breast cancer patients living with HIV. By synthesizing the existing body of knowledge, this review aims to contribute to the development of targeted and effective transfusion protocols that address the specific needs of this complex patient population.

Hematologic Complications in Breast Cancer Patients with HIV

The coexistence of breast cancer and HIV poses a distinct set of challenges, particularly in the realm of hematologic complications. Breast cancer itself is often associated with a spectrum of hematologic abnormalities, and the immunocompromised state induced by HIV further complicates this landscape. Anemia, characterized by a reduction in red blood cell count or hemoglobin levels, is a common hematologic complication in breast cancer patients. The interaction with HIV may exacerbate anemia due to factors such as chronic inflammation, opportunistic infections, or the myelosuppressive effects of antiretroviral therapy. Thrombocytopenia, a condition marked by a low platelet count, is another significant hematologic complication observed in breast cancer patients with HIV. The interplay between cancer-related thrombocytopenia and HIV-associated thrombocytopenia can result in an increased risk of bleeding and challenges in managing both conditions simultaneously. Neutropenia, a deficiency of neutrophils, the body's primary defense against bacterial infections, is also a concern. Breast cancer treatments, such as chemotherapy, can contribute to neutropenia, and when coupled with the immunosuppressive effects of HIV, the risk of severe infections is heightened. These hematologic complications not only impact the overall health and well-being of the patient but also pose challenges in the management of both breast cancer and HIV. The delicate balance required to address these complications without compromising the efficacy of cancer treatments or the control of HIV highlights the need for specialized and integrated care. Clinicians must navigate the complexities of these intertwined conditions to optimize treatment strategies and mitigate the risks associated with hematologic abnormalities in breast cancer patients living with HIV. A comprehensive understanding of the mechanisms underlying these complications is crucial

for tailoring effective therapeutic interventions and improving patient outcomes in this unique and vulnerable population.[36-56]

Current Blood Transfusion Practices

Current blood transfusion practices for breast cancer patients living with HIV are multifaceted, influenced by a combination of clinical guidelines, institutional protocols, and patient-specific factors. Transfusions play a pivotal role in managing hematologic complications such as anemia, thrombocytopenia, and neutropenia, which are common in breast cancer patients and can be exacerbated by the immunocompromised state associated with HIV. The determination of transfusion triggers, such as hemoglobin levels or platelet counts, varies among healthcare providers and institutions. The careful balancing act between the need for transfusions and the potential risks associated with them, including transfusion reactions and infections, requires a nuanced and patient-centered approach. In addition to transfusion triggers, the selection of blood components is a critical aspect of current practices. Tailoring blood products to meet the specific needs of breast cancer patients with HIV involves considering factors such as the type of cancer treatment being administered, the presence of opportunistic infections, and the overall immune status of the patient. This individualized approach aims to optimize the therapeutic benefits of transfusions while minimizing potential complications.[57-76]

Challenges in the current blood transfusion landscape include occasional shortages of blood products, which can impact the timely and equitable delivery of transfusion services. This issue underscores the importance of implementing strategies to address shortages, improve blood donation programs, and enhance coordination among healthcare institutions. Moreover, as medical science advances, there is an increasing emphasis on exploring alternative approaches to blood transfusions. This includes investigating the use of erythropoiesis-stimulating agents to stimulate red blood cell production and reduce the reliance on transfusions. Additionally, advancements in transfusion medicine technologies, such as pathogen reduction techniques, aim to enhance the safety of blood products, especially for immunocompromised patients.[77-82]

Emerging Strategies for Optimization

Emerging strategies for optimizing blood transfusion protocols for breast cancer patients living with HIV are at the forefront of medical research and innovation. Recognizing the complexities of this dual diagnosis, researchers and healthcare professionals are exploring novel approaches to enhance the safety and efficacy of transfusion practices. Recognizing that one-size-fits-all transfusion triggers may not be applicable to all patients, there is a growing emphasis on individualized transfusion thresholds. This approach takes into account the patient's overall health status, cancer stage, HIV status, and other individual factors, tailoring transfusion decisions to meet specific needs while minimizing unnecessary transfusions. Erythropoiesis-Stimulating Agents (ESAs) such as erythropoietin, are being explored as adjuncts to traditional transfusion methods. These agents stimulate the production of red blood cells and may reduce the dependence

on blood transfusions, thereby mitigating the risks associated with transfusion-related complications. Technological advancements, particularly in pathogen reduction techniques, aim to enhance the safety of blood products. These techniques reduce the risk of transfusion-transmitted infections, a critical consideration for immunocompromised individuals, including those with HIV. The implementation of state-of-the-art technologies contributes to overall patient safety and the quality of transfusion services. Autologous blood transfusion involves collecting and storing a patient's own blood for later use. This approach is gaining attention as a potential strategy to minimize exposure to donor-related risks, including infections. However, challenges such as logistical considerations and the potential impact on overall patient health need to be carefully evaluated. Empowering patients with knowledge about the importance of blood transfusions, potential side effects, and the overall management of hematologic complications is an emerging strategy. Comprehensive education and counseling may lead to increased patient engagement and adherence to transfusion protocols, contributing to improved outcomes.[83-107]

Impact on Patient Outcomes

The optimization of blood transfusion protocols for breast cancer patients living with HIV holds significant potential to positively impact patient outcomes across various dimensions. The integration of emerging strategies and the refinement of current practices are expected to influence clinical, psychological, and overall well-being aspects of this unique patient population. By tailoring blood transfusion protocols to the specific needs of breast cancer patients with HIV, there is a direct potential to enhance the management of hematologic complications. Addressing issues such as anemia, thrombocytopenia, and neutropenia through personalized and timely transfusions can contribute to improved blood parameters, reducing fatigue, infection risk, and bleeding tendencies associated with these complications. Optimal blood transfusion practices may positively impact the tolerance of cancer treatments, such as chemotherapy and radiation therapy. Managing hematologic complications effectively can enable patients to undergo prescribed treatments with fewer interruptions, potentially improving the overall effectiveness of cancer therapies and increasing the likelihood of favorable treatment outcomes.[108-121]

The implementation of emerging strategies, including individualized thresholds and advanced transfusion technologies, has the potential to reduce transfusion-related complications. This, in turn, can minimize the risk of adverse events, infections, and other complications associated with blood transfusions, promoting the safety and well-being of breast cancer patients living with HIV. Optimized blood transfusion protocols can contribute to an enhanced quality of life for patients by mitigating the impact of hematologic complications on daily activities. Improved energy levels, reduced symptoms of anemia, and an overall sense of well-being may positively influence patients' physical and emotional health, fostering a better quality of life despite the challenges posed by breast cancer and HIV. Patient education and counseling as part of emerging strategies can play a crucial role in increasing treatment adherence and satisfaction. When patients are well-informed about the importance and nuances of blood transfusions, they may feel more engaged in their treatment plans, leading to better compliance and overall satisfaction with the healthcare

experience. While the direct impact on long-term survival requires further investigation, optimizing blood transfusion protocols may indirectly contribute to improved survival outcomes. By effectively managing hematologic complications, supporting cancer treatments, and reducing complications associated with transfusions, the overall trajectory of disease progression may be positively influenced.[122-149]

Conclusion

The optimization of blood transfusion protocols for breast cancer patients living with HIV represents a critical frontier in enhancing the holistic care of this unique and complex patient population. The coexistence of breast cancer and HIV introduces intricate challenges, particularly in managing hematologic complications that necessitate blood transfusions. By acknowledging the interplay between these two conditions and the associated hematologic complications, healthcare providers can refine blood transfusion protocols to better address the specific needs of individuals with breast cancer and HIV. The evolving landscape of individualized transfusion thresholds, the integration of erythropoiesis-stimulating agents, and advancements in transfusion medicine technologies offer promising opportunities to tailor care to the unique circumstances of these patients.

The potential impact on patient outcomes is multifaceted. From improved hematologic management and enhanced tolerance of cancer treatments to a reduction in transfusion-related complications and an overall enhancement of quality of life, the optimization of blood transfusion protocols holds great promise. Through comprehensive patient education and counseling, there is an opportunity to empower individuals with knowledge, fostering increased treatment adherence and patient satisfaction.

References

1. Sankaranarayanan R, Boffetta P. Research on cancer prevention, detection and management in low-and medium-income countries. Annals of oncology. 2010;21(10):1935-1943.
2. Mukerjee N, Maitra S, Ghosh A, Sengupta T, Alexiou A, Subramaniyan V, Anand K. Synergizing Proteolysis-Targeting Chimeras and Nanoscale Exosome-Based Delivery Mechanisms for HIV and Antiviral Therapeutics. ACS Applied Nano Materials. 2024.
3. Obeagu EI, Obeagu GU. Breast cancer: A review of risk factors and diagnosis. Medicine. 2024 Jan 19;103(3):e36905.
4. Obeagu EI, Obeagu GU. Breastfeeding's protective role in alleviating breast cancer burden: A comprehensive review. Annals of Medicine and Surgery.:10-97.
5. Obeagu EI, Ahmed YA, Obeagu GU, Bunu UO, Ugwu OP, Alum EU. Biomarkers of breast cancer: Overview. Int. J. Curr. Res. Biol. Med. 2023;1:8-16.
6. Obeagu EI, Obeagu GU. Breaking Ground: PARP Inhibitors and Their Efficacy in Breast Cancer Stages. Elite Journal of Medicine. 2024;2(2):42-54.

Citation: 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

7. Obeagu EI, Obeagu GU. BRCA Mastery: Redefining Breast Cancer Care through Cutting-edge Diagnosis and Management. Elite Journal of Medicine. 2024;2(2):55-66.
8. Mohamed QH, Obeagu EI. Genetic Heterogeneity in Breast Cancer: Implications. Elite Journal of Health Science. 2024;2(1):20-4.
9. Mohamed AF, Obeagu EI. Genetic Influence on Breast Cancer Progression: A Molecular Perspective. Elite Journal of Medica Science. 2024;2(1):19-22.
10. Obeagu EI, Obeagu GU, Obiezu J, Ezeonwumelu C, Ogunnaya FU, Ngwoke AO, Emeka-Obi OR, Ugwu OP. Hematologic Support in HIV Patients: Blood Transfusion Strategies and Immunological Considerations. Applied Sciences (NIJBAS). 2023;3(3).
11. 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.
12. 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.
13. 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.
14. 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.
15. 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.
16. Obeagu EI, Alum EU, Obeagu GU. Factors associated with prevalence of HIV among youths: A review of Africa perspective. Madonna University journal of Medicine and Health Sciences. 2023;3(1):13-18. https://madonnauniversity.edu.ng/journals/index.php/medicine/article/view/93.
17. 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.
18. 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.
19. 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.
20. 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

Citation: 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

21. Obeagu EI, Babar Q, Obeagu GU. Allergic blood Transfusion reaction: A Review. Int. J. Curr. Res. Med. Sci. 2021;7(5):25-33.
22. Obeagu EI, Ubosi NI, Uzoma G. Maternal Hemorrhage and Blood Transfusions: Safeguarding Pregnancy Health. Int. J. Curr. Res. Chem. Pharm. Sci. 2023;10(11):26-35.
23. 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.
24. ObeaguEI AA, 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.
25. 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.
26. Obeagu EI, Obeagu GU, Musiimenta E, Bot YS, Hassan AO. Factors contributing to low utilization of HIV counseling and testing services. Int. J. Curr. Res. Med. Sci. 2023;9(2): 1-5.DOI: 10.22192/ijcrms.2023.09.02.001
27. 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.
28. 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.
29. 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.
30. 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.
31. 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.
32. 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.
33. 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

Citation: 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

34. 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
35. 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.
36. Obeagu EI, Obeagu GU. Transfusion Therapy in HIV: Risk Mitigation and Benefits for Improved Patient Outcomes. Sciences. 2024;4(1):32-37.
37. Obeagu EI, Obeagu GU, Obiezu J, Ezeonwumelu C, Ogunnaya FU, Ngwoke AO, Ugwu OP. Immunomodulatory Effects of Transfusions on Maternal Immunity in Pregnancy. Applied Sciences (NIJBAS). 2023;3(3).
38. Obeagu EI, Babar Q, Uduchi IO, Ibekwe AM, Chijioke UO, Okafor CJ, Vincent CC. An Update on Transfusion Related Immunomodulation (TRIM) in a Time of COVID-19 Pandemic. Journal of Pharmaceutical Research International. 2021 Aug 27;33(42A):135-146.
39. Okoroiwu IL, Obeagu EI, Elemchukwu Q, Ochei KC, Christian GS. Frequency of Transfusion Reactions Following Compatible Cross Matching of Blood: A Study in Owerri Metropolis. International Journal of Current Research and Academic Review. 2015;3(1):155-160.
40. Obeagu EI, Oshim IO, Ochei KC, Obeagu GU. Iron and blood donation: A Review. Int. J. Curr. Res. Med. Sci. 2016;2(10):16-48.
41. Ogar CO, Okoroiwu HU, Obeagu EI, Etura JE, Abunimye DA. Assessment of blood supply and usage pre-and during COVID-19 pandemic: a lesson from non-voluntary donation. Transfusion Clinique et Biologique. 2021;28(1):68-72.
42. 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.
43. Igwe CM, Obeagu IE, Ogbuabor OA. Clinical characteristics of people living with HIV/AIDS on ART in 2014 at tertiary health institutions in Enugu, Nigeria. J Pub Health Nutri. 2022; 5 (6). 2022;130. links/645a166f5762c95ac3817d32/Clinical-characteristics-of-people-living-with-HIV-AIDS-on-ART-in-2014-at-tertiary-health-institutions-in-Enugu.pdf.
44. 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.

45. 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
46. 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
47. 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.
48. 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.
49. 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.
50. 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.
51. 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.
52. 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.
53. 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

54. 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.
55. 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
56. 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.
57. 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. 2023;102(47): e36342.
58. Obeagu EI. Blood Transfusion: A Powerful Process of Saving Anaemic Patients. EC Emergency Medicine and Critical Care. 2020;4(7):33-40.
59. Obeagu EI, Buhari HA. Implications of Blood Transfusion in Renal Disease Patients. Int. J. Curr. Res. Chem. Pharm. Sci. 2023;10(10):45-49.
60. Anyiam AF, Arinze-Anyiam OC, Omosigho PO, Ibrahim M, Irondi EA, Obeagu EI, Obi E. Blood Group, Genotype, Malaria, Blood Pressure and Blood Glucose Screening Among Selected Adults of a Community in Kwara State: Implications to Public Health. Asian Hematology Research Journal. 2022;6(3):9-17.
61. Obeagu EI, Obeagu GU, Ukibe NR, Oyebadejo SA. Anemia, iron, and HIV: decoding the interconnected pathways: A review. Medicine. 2024;103(2): e36937.
62. Viola N, Kimono E, Nuruh N, Obeagu EI. Factors Hindering Elimination of Mother to Child Transmission of HIV Service Uptake among HIV Positive Women at Comboni Hospital Kyamuhunga Bushenyi District. Asian Journal of Dental and Health Sciences. 2023;3(2):7-14. http://ajdhs.com/index.php/journal/article/view/39.
63. 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.
64. 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.
65. 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/.
66. Igwe MC, Obeagu EI, Ogbuabor AO, Eze GC, Ikpenwa JN, Eze-Steven PE. Socio-Demographic Variables of People Living with HIV/AIDS Initiated on ART in 2014 at Tertiary Health Institution in Enugu State. Asian Journal of Research in Infectious Diseases. 2022;10(4):1-7.
67. 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.
68. Igwe MC, Obeagu EI, Ogbuabor AO. ANALYSIS OF THE FACTORS AND PREDICTORS OF ADHERENCE TO HEALTHCARE OF PEOPLE LIVING WITH HIV/AIDS IN TERTIARY HEALTH INSTITUTIONS IN ENUGU STATE. Madonna University journal of Medicine and Health Sciences. 2022;2(3):42-57. https://madonnauniversity.edu.ng/journals/index.php/medicine/article/view/75.
69. 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
70. 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
71. 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.
72. 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.
73. 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.

Citation: 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

74. 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.
75. 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.
76. 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.
77. Obeagu EI. An update on susceptibility of individuals to diseases based on ABO blood groups. Int. J. Curr. Res. Med. Sci. 2019;5(3):1-8.
78. Eze R, Obeagu EI, Nwakulite A, Vincent CC, Ogbodo SO, Ibekwe AM, Okafor CJ, Chukwurah EF. Frequency of Haemoglobin Genotype Variants, ABO and Rh 'D'Antigen among Madonna Undergraduates of South East Origin, Nigeria. Journal of Pharmaceutical Research International. 2021 May 26;33(29B):149-57.
79. Okoroiwu IL, Obeagu EI, Christian SG, Elemchukwu Q, Ochei KC. Determination of the haemoglobin, genotype and ABO blood group pattern of some students of Imo State University, Owerri, Nigeria. International Journal of Current Research and Academic Review. 2015;3(1):20-27.
80. Oloro OH, Obeagu EI, Puche RO, Lawal OA. Blood Products in Blood Banking: Preparation and Clinical Importance. Madonna University journal of Medicine and Health Sciences ISSN: 2814-3035. 2022;2(3):102-109.
81. Asemota EA, Njar VE, Aguanah IT, Obeagu EI. Distribution of ABO, Rhesus Blood Group and Helicobacter Pylori Infection among Secondary School Students in Calabar South Local Government, Cross River State, Nigeria. Madonna University journal of Medicine and Health Sciences ISSN: 2814-3035. 2023;3(1):32-45.
82. Obeagu EI, Katya MC. A Systematic Review on Physiological Jaundice: Diagnosis and Management of the Affected Neonates. Madonna University journal of Medicine and Health Sciences. 2022;2(3):25-41.
83. 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.
84. Alum EU, Ugwu OP, Obeagu EI, Okon MB. Curtailing HIV/AIDS Spread: Impact of Religious Leaders. Newport International Journal of Research in Medical Sciences (NIJRMS). 2023;3(2):28-31.
85. Obeagu EI, Obeagu GU, Paul-Chima UO. Stigma Associated With HIV. AIDS: A Review. Newport International Journal of Public Health and Pharmacy (NIJPP). 2023;3(2):64-67.

Citation: 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

86. Alum EU, Obeagu EI, Ugwu OP, Aja PM, Okon MB. HIV Infection and Cardiovascular diseases: The obnoxious Duos. Newport International Journal of Research in Medical Sciences (NIJRMS). 2023;3(2):95-99.
87. 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/li1i2/A%20Retrospective%20Study%20on%20Human%20Immune%20Deficiency%20Virus%20among%20Pregnant%20Women%20Attending%20Antenatal%20Clinic%20in%20Imo%20State%20University%20Teaching%20Hospital.pdf.
88. 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.
89. 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.
90. 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.
91. 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.
92. 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.
93. Obeagu EI, Malot S, Obeagu GU, Ugwu OP. HIV resistance in patients with Sickle Cell Anaemia. Newport International Journal of Scientific and Experimental Sciences (NIJSES). 2023;3(2):56-59.
94. 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.
95. 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.
96. 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).
97. 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.

Citation: 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

98. 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.
99. 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.
100. 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.
101. 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.
102. 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.
103. Alum EU, Obeagu EI, Ugwu OPC, Samson AO, Adepoju AO, Amusa MO. Inclusion of nutritional counseling and mental health services in HIV/AIDS management: A paradigm shift. Medicine (Baltimore). 2023;102(41): e35673. doi: 10.1097/MD.0000000000035673. PMID: 37832059; PMCID: PMC10578718.
104. Aizaz M, Abbas FA, Abbas A, Tabassum S, Obeagu EI. Alarming rise in HIV cases in Pakistan: Challenges and future recommendations at hand. Health Sci Rep. 2023;6(8): e1450. doi: 10.1002/hsr2.1450. PMID: 37520460; PMCID: PMC10375546.
105. Obeagu EI, Obeagu GU, Obiezu J, Ezeonwumelu C, Ogunnaya FU, Ngwoke AO, Emeka-Obi OR, Ugwu OP. Hematologic Support in HIV Patients: Blood Transfusion Strategies and Immunological Considerations. APPLIED SCIENCES (NIJBAS). 2023;3(3).
106. 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.
107. 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.
108. Aberg JA, Gallant JE, Anderson J, Oleske JM, Libman H, Currier JS, Stone VE, Kaplan JE. Primary care guidelines for the management of persons infected with human immunodeficiency virus: recommendations of the HIV Medicine Association of the Infectious Diseases Society of America. Clinical Infectious Diseases. 2004;39(5):609-629.

Citation: 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

109. Oeffinger KC, Fontham ET, Etzioni R, Herzig A, Michaelson JS, Shih YC, Walter LC, Church TR, Flowers CR, LaMonte SJ, Wolf AM. Breast cancer screening for women at average risk: 2015 guideline update from the American Cancer Society. Jama. 2015;314(15):1599-1614.
110. Obeagu EI, Malot S, Obeagu GU, Ugwu OP. HIV resistance in patients with Sickle Cell Anaemia. Newport International Journal of Scientific and Experimental Sciences (NIJSES). 2023;3(2):56-9.
111. Alum EU, Ugwu OP, Obeagu EI, Aja PM, Okon MB, Uti DE. Reducing HIV Infection Rate in Women: A Catalyst to reducing HIV Infection pervasiveness in Africa. International Journal of Innovative and Applied Research. 2023;11(10):01-6.
112. Obeagu EI, Obeagu GU. Unmasking the Truth: Addressing Stigma in the Fight Against HIV. Elite Journal of Public Health. 2024;2(1):8-22.
113. Obeagu EI, Obeagu GU, Ukibe NR, Oyebadejo SA. Anemia, iron, and HIV: decoding the interconnected pathways: A review. Medicine. 2024 Jan 12;103(2):e36937.
114. 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.
115. Obeagu EI, Obeagu GU. CD8 Dynamics in HIV Infection: A Synoptic Review. Elite Journal of Immunology. 2024;2(1):1-3.
116. Obeagu EI, Obeagu GU. Implications of B Lymphocyte Dysfunction in HIV/AIDS. Elite Journal of Immunology. 2024;2(1):34-46.
117. Obeagu EI, Obeagu GU. Utilization of immunological ratios in HIV: Implications for monitoring and therapeutic strategies. Medicine. 2024 Mar 1;103(9):e37354.
118. 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.
119. Obeagu EI, Obeagu GU. Platelet-Driven Modulation of HIV: Unraveling Interactions and Implications. Journal home page: http://www. journalijiar. com.;12(01).
120. Obeagu EI, Anyiam AF, Obeagu GU. Managing Hematological Complications in HIV: Erythropoietin Considerations. Elite Journal of HIV. 2024;2(1):65-78.
121. 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).
122. Obeagu EI, Anyiam AF, Obeagu GU. Erythropoietin Therapy in HIV-Infected Individuals: A Critical Review. Elite Journal of HIV. 2024;2(1):51-64.
123. Obeagu EI, Obeagu GU. Maternal Influence on Infant Immunological Responses to HIV: A Review. Elite Journal of Laboratory Medicine. 2024;2(1):46-58.
124. 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.
125. 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.
126. Obeagu EI, Obeagu GU. The Crucial Involvement of CD8 in HIV Progression: A Review. Int. J. Curr. Res. Med. Sci. 2024;10(2):15-25.

Citation: 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

127. 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.
128. 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.
129. 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.
130. 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).
131. 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.
132. 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.
133. 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.
134. 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).
135. 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.
136. 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.
137. 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.
138. Obeagu EI, Obeagu GU, Odo EO, Igwe MC, Ugwu OP, Alum EU, Racheal P. Combatting Stigma: Essential Steps in Halting HIV Spread. IAA Journal of Applied Sciences. 2024;11(1):22-9.
139. 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.
140. 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.

Citation: 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

141. 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.
142. 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.
143. 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.
144. 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.
145. Obeagu EI, Obeagu GU. Transfusion Therapy in HIV: Risk Mitigation and Benefits for Improved Patient Outcomes. Sciences. 2024;4(1):32-7.
146. 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.
147. Obeagu EI, Obeagu GU. Strength in Unity: Building Support Networks for HIV Patients in Uganda. Elite Journal of Medicine. 2024;2(1):1-6.
148. Obeagu EI, Obeagu GU. Mental Health and Psychosocial Effects of natural disaster on HIV Patients. Sciences. 2024;4(1):38-44.
149. 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.