

Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review

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

Abstract

Children with severe malaria and HIV often require blood transfusions to manage complications such as severe anemia. However, the neurocognitive effects of these transfusions remain poorly understood. This review consolidates existing knowledge on the neurocognitive impacts of blood transfusion in this vulnerable population. It explores potential mechanisms underlying neurocognitive impairment, including transfusion-related acute lung injury, transfusion-associated circulatory overload, and transfusion-transmitted infections. Furthermore, it discusses the synergistic effects of severe malaria and HIV on neurocognitive vulnerability. Understanding these effects is critical for optimizing transfusion strategies and improving long-term neurocognitive outcomes in affected children.

Keywords: Blood transfusion, neurocognitive effects, children, severe malaria, HIV

Introduction

Severe malaria and HIV infection continue to pose significant public health challenges, particularly in pediatric populations across the globe. In regions with limited healthcare resources, these diseases contribute substantially to morbidity and mortality among children. Severe malaria often leads to life-threatening complications, including severe anemia, necessitating urgent medical intervention such as blood transfusion. Similarly, HIV infection, if left untreated, can result in immunosuppression and various complications, including anemia, which may also require blood transfusion. However, while blood transfusion is a critical intervention in managing these conditions, its potential neurocognitive effects in children remain a topic of concern and

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. Elite Journal of Medicine, 2024; 2(4): 55-73

investigation. Blood transfusion is a complex medical procedure involving the administration of donor blood or blood products to recipients. While transfusion is generally considered safe and effective, it carries inherent risks, including transfusion-related acute lung injury (TRALI), transfusion-associated circulatory overload (TACO), and transmission of infectious agents. These risks may be heightened in pediatric patients, particularly those with underlying conditions such as severe malaria and HIV infection. Despite the life-saving nature of transfusion in these populations, the neurocognitive consequences of transfusion have received limited attention in clinical practice and research.¹⁻²⁶

Neurocognitive function encompasses various aspects of cognitive abilities, including attention, memory, language, and executive function. Children with severe malaria and HIV are already at increased risk of neurocognitive impairment due to the direct effects of these diseases on the central nervous system, as well as secondary factors such as malnutrition and socioeconomic disparities. The potential additive or synergistic neurocognitive effects of blood transfusion in this context warrant careful consideration and investigation. Understanding the impact of transfusion on neurocognitive function in children with severe malaria and HIV is essential for optimizing transfusion strategies and improving overall outcomes in these vulnerable populations. Moreover, the mechanisms underlying transfusion-related neurocognitive effects in children with severe malaria and HIV remain poorly elucidated. It is hypothesized that factors such as alterations in cerebral oxygenation, inflammatory responses, and transfusion-transmitted infections may contribute to neurocognitive impairment following transfusion. However, robust evidence linking blood transfusion to specific neurocognitive outcomes in these populations is lacking. Therefore, a comprehensive review of existing literature is warranted to synthesize current knowledge, identify gaps in understanding, and guide future research efforts aimed at elucidating the neurocognitive effects of blood transfusion in children with severe malaria and HIV.²⁷⁻⁴⁶

In this review, we aim to consolidate current evidence on the neurocognitive impacts of blood transfusion in children with severe malaria and HIV.

Neurocognitive Effects of Blood Transfusion

Blood transfusion, a life-saving intervention for various medical conditions, has been associated with potential neurocognitive effects, particularly in vulnerable populations such as children with severe malaria and HIV. Understanding these effects is critical for optimizing transfusion strategies and improving long-term outcomes in affected individuals. While blood transfusion is primarily aimed at restoring oxygen delivery and improving tissue perfusion, its impact on the central nervous system (CNS) remains complex and multifactorial. One of the primary concerns regarding the neurocognitive effects of blood transfusion is related to alterations in cerebral oxygenation. Severe anemia, a common indication for transfusion in children with malaria and HIV, can compromise cerebral oxygen delivery, leading to neurological deficits. While transfusion aims to alleviate this hypoxia, rapid correction of anemia may precipitate cerebral hyperperfusion, potentially exacerbating neurological injury through mechanisms such as blood-brain barrier disruption and cerebral edema. Additionally, transfusion-related factors such as the rate and

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

volume of blood administered may influence cerebral blood flow dynamics and contribute to neurocognitive impairment.⁴⁷⁻⁶⁶

Transfusion-related acute lung injury (TRALI) and transfusion-associated circulatory overload (TACO), two well-recognized complications of blood transfusion, can indirectly impact neurocognitive function by impairing cardiopulmonary function and cerebral perfusion. TRALI, characterized by acute respiratory distress and pulmonary edema following transfusion, may lead to hypoxemia and cerebral hypoperfusion, exacerbating neurocognitive deficits. Similarly, TACO, resulting from fluid overload, can compromise cardiac function and exacerbate cerebral edema, further impairing neurological function in vulnerable populations. Furthermore, transfusion-transmitted infections represent a potential source of neurocognitive impairment in children with severe malaria and HIV. While stringent screening measures have reduced the risk of transmission, certain pathogens, such as cytomegalovirus (CMV) and human immunodeficiency virus (HIV), have been implicated in neurological complications following transfusion. In children with HIV, in particular, transfusion-associated HIV transmission may exacerbate existing neurocognitive deficits and accelerate disease progression, highlighting the importance of blood safety protocols in this population. In addition to these acute neurocognitive effects, long-term neurodevelopmental outcomes following blood transfusion in children with severe malaria and HIV warrant further investigation. Emerging evidence suggests that repeated transfusions may be associated with neurocognitive impairments in other pediatric populations, such as those with sickle cell disease, emphasizing the need for longitudinal studies to assess the cumulative impact of transfusion on cognitive function in children with severe malaria and HIV. Understanding the complex interplay between transfusion-related factors, disease pathology, and neurocognitive outcomes is essential for optimizing transfusion strategies and improving long-term neurological outcomes in this vulnerable population.⁶⁷⁻⁹⁸

Severe Malaria, HIV, and Neurocognitive Vulnerability

Children with severe malaria and HIV are particularly susceptible to neurocognitive impairment due to the direct and indirect effects of these diseases on the central nervous system (CNS). Malaria, caused by *Plasmodium* parasites transmitted through mosquito bites, can lead to cerebral malaria, a severe complication characterized by coma, seizures, and neurological deficits. The pathogenesis of cerebral malaria involves a complex interplay of parasite sequestration, microvascular dysfunction, and immune-mediated neuronal injury, resulting in widespread CNS inflammation and neuronal damage. Consequently, children with cerebral malaria often exhibit deficits in attention, memory, and executive function, which may persist even after resolution of acute symptoms. Similarly, HIV infection, a chronic viral illness that progressively targets the immune system, can also have profound neurological consequences, collectively known as HIV-associated neurocognitive disorders (HAND). HAND encompasses a spectrum of cognitive impairments, ranging from mild neurocognitive deficits (mild neurocognitive disorder) to severe dementia (HIV-associated dementia). The neuropathogenesis of HAND involves direct viral invasion of the CNS, chronic neuroinflammation, and neurotoxicity, leading to synaptic dysfunction, neuronal loss, and white matter abnormalities. Children with HIV may experience impairments in various cognitive domains, including processing speed, attention, executive

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

function, and motor skills, which can significantly impact academic performance and quality of life.⁹⁹⁻¹³⁷

The coexistence of severe malaria and HIV in pediatric populations presents unique challenges and may exacerbate neurocognitive vulnerability. Studies have suggested that HIV infection may increase the risk and severity of cerebral malaria by impairing immune responses and promoting parasite replication within the CNS. Conversely, malaria-induced inflammation and microvascular dysfunction may accelerate HIV disease progression and exacerbate neurocognitive deficits in children with HIV. Moreover, the interaction between antimalarial and antiretroviral therapies may complicate treatment regimens and contribute to drug-related neurotoxicity, further compromising neurocognitive function in this vulnerable population. In addition to disease-specific factors, socioenvironmental determinants play a crucial role in shaping neurocognitive vulnerability in children with severe malaria and HIV. Poverty, malnutrition, limited access to healthcare, and educational disparities contribute to increased risk and severity of neurocognitive impairment in resource-limited settings where these diseases are endemic. Furthermore, stigma and discrimination associated with HIV/AIDS may exacerbate psychosocial stressors and negatively impact neurocognitive development and mental health outcomes in affected children. Given the complex interplay between severe malaria, HIV, and neurocognitive vulnerability, comprehensive approaches are needed to mitigate risks and optimize outcomes in affected children. Multidisciplinary interventions that address both medical and psychosocial determinants of neurocognitive health, including early diagnosis and treatment of malaria and HIV, nutritional support, neurodevelopmental assessment, and educational interventions, are essential for promoting optimal neurocognitive development and mitigating the long-term impact of these diseases on affected children. Moreover, continued research efforts are needed to elucidate the underlying mechanisms of neurocognitive vulnerability in children with severe malaria and HIV and to develop targeted interventions to address these challenges.¹³⁸⁻¹⁶⁷

Clinical Implications and Future Directions

The neurocognitive effects of blood transfusion in children with severe malaria and HIV have significant clinical implications that warrant attention from healthcare providers and researchers. Understanding these implications is crucial for optimizing transfusion strategies and improving long-term outcomes in affected individuals. Firstly, healthcare providers must be vigilant in monitoring for transfusion-related complications, such as transfusion-related acute lung injury (TRALI), transfusion-associated circulatory overload (TACO), and transfusion-transmitted infections, in children with severe malaria and HIV. Prompt recognition and management of these complications can help mitigate their impact on neurocognitive function and prevent adverse outcomes. Additionally, efforts to enhance blood safety and quality are paramount in minimizing the risk of transfusion-related neurocognitive impairment. Screening for transfusion-transmitted infections, implementing leukoreduction, and ensuring proper storage and handling of blood products are essential measures to safeguard the neurological health of transfusion recipients, particularly in resource-limited settings where these diseases are endemic.¹⁶⁸⁻¹⁸⁷

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

Furthermore, optimizing transfusion strategies to minimize the risk of neurocognitive impairment is essential. Tailoring transfusion thresholds, rates, and volumes to individual patient characteristics and disease severity can help mitigate the risk of cerebral hyperperfusion, hypoxemia, and fluid overload, which may exacerbate neurocognitive deficits in vulnerable populations. Longitudinal studies are needed to elucidate the long-term neurocognitive effects of blood transfusion in children with severe malaria and HIV. Assessing neurodevelopmental outcomes over time and identifying risk factors for neurocognitive impairment can help guide clinical practice and inform interventions aimed at optimizing cognitive function and quality of life in affected children. Furthermore, exploring alternative treatment modalities, such as erythropoietin therapy and non-transfusion strategies for managing anemia in children with severe malaria and HIV, may offer promising avenues for reducing the need for blood transfusion and minimizing associated neurocognitive risks. Ultimately, a multidisciplinary approach that integrates clinical care, research, and public health interventions is essential for addressing the complex interplay between severe malaria, HIV, blood transfusion, and neurocognitive vulnerability in children. By prioritizing neurocognitive health and implementing evidence-based strategies to mitigate risks, healthcare providers can improve outcomes and enhance the quality of life for children affected by these debilitating diseases.¹⁸⁸⁻¹⁹⁴

Conclusion

The neurocognitive effects of blood transfusion in children with severe malaria and HIV represent a complex and multifaceted challenge with significant clinical implications. While blood transfusion is essential for managing complications such as severe anemia, its potential impact on neurocognitive function in this vulnerable population requires careful consideration and investigation. Children with severe malaria and HIV are already at increased risk of neurocognitive impairment due to the direct effects of these diseases on the central nervous system, as well as secondary factors such as malnutrition and socioeconomic disparities. The synergistic interactions between severe malaria, HIV, and blood transfusion further exacerbate neurocognitive vulnerability, highlighting the need for comprehensive approaches to mitigate risks and optimize outcomes. Clinicians must remain vigilant in monitoring for transfusion-related complications and implementing measures to enhance blood safety and quality. Tailoring transfusion strategies to individual patient characteristics and disease severity can help minimize the risk of neurocognitive impairment and improve long-term neurological outcomes in affected children.

References

1. Alonso PL, Tanner M. Public health challenges and prospects for malaria control and elimination. *Nature medicine*. 2013;19(2):150-155.
2. Muhammad F, Abdulkareem JH, Chowdhury AA. Major public health problems in Nigeria: a review. *South East Asia Journal of Public Health*. 2017;7(1):6-11.
3. González R, Ataíde R, Nanche D, Menéndez C, Mayor A. HIV and malaria interactions: where do we stand? *Expert review of anti-infective therapy*. 2012 Feb 1;10(2):153-65.
4. De Baets AJ, Bulterys M, Abrams EJ, Kankassa C, Pazvakavambwa IE. Care and treatment of HIV-infected children in Africa: issues and challenges at the district hospital level. *The Pediatric infectious disease journal*. 2007;26(2):163-173.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

5. Bhutta ZA, Sommerfeld J, Lassi ZS, Salam RA, Das JK. Global burden, distribution, and interventions for infectious diseases of poverty. *Infectious diseases of poverty*. 2014; 3:1-7.
6. Crawley J, Chu C, Mtove G, Nosten F. Malaria in children. *The Lancet*. 2010;375(9724):1468-1481.
7. Obeagu EI, Obeagu GU, Chukwueze CM, Ikpenwa JN, Ramos GF. EVALUATION OF PROTEIN C, PROTEIN S AND FIBRINOGEN OF PREGNANT WOMEN WITH MALARIA IN OWERRI METROPOLIS. *Madonna University journal of Medicine and Health Sciences* ISSN: 2814-3035. 2022;2(2):1-9.
8. 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.
9. Opeyemi AA, Obeagu EI. Regulations of malaria in children with human immunodeficiency virus infection: A review. *Medicine*. 2023;102(46): e36166.
10. Obeagu EI, Chijioke UO, Ekelozie IS. Malaria rapid diagnostic test (RDTs). *Ann Clin Lab Res*. 2018;6(4):275.
11. Ogomaka IA, Obeagu EI. Methods of Breast Feeding as Determinants of Malaria Infections among Babies in IMO State, Nigeria. *International Journal of Medical Science and Dental Research*. 2019;2(01):17-24.
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. 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.
14. 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.
15. 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.
16. Obeagu EI, Babar Q, Obeagu GU. Allergic blood Transfusion reaction: A Review. *Int. J. Curr. Res. Med. Sci*. 2021;7(5):25-33.
17. 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.
18. 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>.
19. 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.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

20. 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.
21. 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)
22. 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).
23. 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.
24. 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.
25. 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.
26. 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://doi.org/10.22192/ijcrms.2017.03.01.004).
27. Obeagu EI, Obeagu GU, Egba SI, Emeka-Obi OR. Combatting Anemia in Pediatric Malaria: Effective Management Strategies. *Int. J. Curr. Res. Med. Sci*. 2023;9(11):1-7.
28. Hassan AO, Oso OV, Obeagu EI, Adeyemo AT. Malaria Vaccine: Prospects and Challenges. *Madonna University journal of Medicine and Health Sciences* ISSN: 2814-3035. 2022;2(2):22-40.
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):10-9.
30. Obeagu EI, Busari AI, Uduchi IO, Ogomaka IA, Ibekwe AM, Vincent CC, Chijioke UO, Okafor CJ, Okoroiwu HU, Adike CN. Age-Related Haematological Variations in Patients with Asymptomatic Malaria in Akure, Ondo State, Nigeria. *Journal of Pharmaceutical Research International*. 2021;33(42B):218-24.
31. Ogomaka IA, Obeagu EI. Malaria in Pregnancy Amidst Possession of Insecticide Treated Bed Nets (ITNs) in Orlu LGA of Imo State, Nigeria. *Journal of Pharmaceutical Research International*. 2021;33(41B):380-386.
32. 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.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

33. 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.
34. 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.
35. 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.
36. Obeagu EI, Obeagu GU. Transfusion Therapy in HIV: Risk Mitigation and Benefits for Improved Patient Outcomes. *Sciences.* 2024;4(1):32-37.
37. 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_Emanuel_Ifeanyi_and_Obeagu_Getrude_Uzoma2.EMMA1.pdf.
38. 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)
39. 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.iosrjournals.org/IOSRpharm/1204015/HIV-and-TB-co-infection-among-patients-who-used-Directly-Observed-Treatment-Short-course-centres-in-Yenagoa-Nigeria.pdf)
40. 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.
41. 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](https://www.iosrjournals.org/IOSRpharm/1204015/HIV-and-TB-co-infection-among-patients-who-used-Directly-Observed-Treatment-Short-course-centres-in-Yenagoa-Nigeria.pdf).
42. 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_Emanuel_Ifeanyi3_et_al.IJC_RAR.pdf.
43. 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.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

[links/5aa2bb17a6fdccd544b7526e/Haematological-Indices-of-HIV-Seropositive-Subjects-at-Nnamdi-Azikiwe.pdf](https://epjournals.com/journals/EJM/links/5aa2bb17a6fdccd544b7526e/Haematological-Indices-of-HIV-Seropositive-Subjects-at-Nnamdi-Azikiwe.pdf)

44. 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](https://doi.org/10.22192/ijcrms.2017.03.02.005)
45. 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.
46. 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://epjournals.com/journals/EJM/links/645b4a6c2edb8e5f094d9bd9/An-update-of-human-immunodeficiency-virus-infection-Bleeding.pdf).
47. 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;33(42A):135-146.
48. 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.
49. 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.
50. 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.
51. 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.* 2023;102(47): e36342.
52. Ogbonna CO, Obeagu EI, Ufelle SA, Ogbonna LN. Evaluation of haematological alterations in children infected by Plasmodium falciparum Species in Enugu, Enugu State, Nigeria. *Journal of Pharmaceutical Research International.* 2021;33(1):38-45.
53. Okorie HM, Obeagu EI, Obarezi HC, Anyiam AF. Assessment of some inflammatory cytokines in malaria infected pregnant women in Imo State Nigeria. *International Journal of Medical Science and Dental Research.* 2019;2(1):25-36.
54. 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.
55. Okorie HM, Obeagu EI, Eze EN, Jeremiah ZA. Assessment of some haematological parameters in malaria infected pregnant women in Imo state Nigeria. *Int. J. Curr. Res. Biol. Med.* 2018;3(9):1-4.
56. Nwosu DC, Obeagu EI, Ezenwuba C, Agu GC, Amah H, Ozims SJ, Nwanjo HU, Edward A, Izuchukwu IF, Amadike JN, Nwagwu AJ. Antioxidant status of children with Plasmodium falciparum malaria in Owerri municipal council of Imo state. *Int. J. Curr. Res. Chem. Pharm. Sci.* 2016;3(8):40-46.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

57. 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>.
58. Walter O, Anaabo 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.
59. 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.
60. 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://www.researchgate.net/publication/361746144/Seroprevalence-of-human-immunodeficiency-virus-based-on-demographic-and-risk-factors-among-pregnant-women-attending-clinics-in-Zaria-Metropolis-Nigeria.pdf).
61. 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://www.researchgate.net/publication/36516faa61e2386049de5e828/A-Review-of-knowledge-attitudes-and-socio-demographic-factors-associated-with-non-adherence-to-antiretroviral-therapy-among-people-living-with-HIV-AIDS.pdf)
62. 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](https://www.researchgate.net/publication/36516f938b0df2f20a2f8b0e0/Tuberculosis-among-HIV-Patients-A-review-of-Prevalence-and-Associated-Factors.pdf).
63. Obeagu EI, Ibeh NC, Nwobodo HA, Ochei KC, Iwegbulam CP. Haematological indices of malaria patients coinfecting 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 coinfecting with HIV.pdf](https://www.academia.edu/download/54317126/Haematological_indices_of_malaria_patients_coinfected_with_HIV.pdf)
64. 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.
65. 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-](https://www.researchgate.net/publication/35344530458515b7291bd95f/Comparative-Study-of-Enzyme-Linked-)

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

[Immunosorbent-Assay-EIISA-and-Rapid-Test-Screening-Methods-on-HIV-HBsAg-HCV-and-Syphilis-among-Voluntary-Donors-in-Owerri-Nigeria.pdf.](#)

66. 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.
67. Obeagu EI. Blood Transfusion: A Powerful Process of Saving Anaemic Patients. *EC Emergency Medicine and Critical Care*. 2020;4(7):33-40.
68. Obeagu EI, Buhari HA. Implications of Blood Transfusion in Renal Disease Patients. *Int. J. Curr. Res. Chem. Pharm. Sci*. 2023;10(10):45-49.
69. Anyiam AF, Arinze-Anyiam OC, Omosigho PO, Ibrahim M, Ironi 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.
70. Obeagu EI, Obeagu GU, Ukibe NR, Oyebadejo SA. Anemia, iron, and HIV: decoding the interconnected pathways: A review. *Medicine*. 2024;103(2): e36937.
71. 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.
72. Okamgba OC, Nwosu DC, Nwobodo EI, Agu GC, Ozims SJ, Obeagu EI, Ibanga IE, Obioma-Elemba IE, Ihekare DE, Obasi CC, Amah HC. Iron Status of Pregnant and Post-Partum Women with Malaria Parasitaemia in Aba Abia State, Nigeria. *Annals of Clinical and Laboratory Research*. 2017;5(4):206.
73. Anyiam AF, Arinze-Anyiam OC, Omosigho PO, Ibrahim M, Ironi 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.
74. 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.
75. Offie DC, Ibekwe AM, Agu CC, Esimai BN, Okpala PU, Obeagu EI, Ufelle SA, Ogonna LN. Fibrinogen and C-Reactive Protein Significance in Children Infected by *Plasmodium falciparum* Species in Enugu, Enugu State, Nigeria. *Journal of Pharmaceutical Research International*. 2021;33(15):1-8.
76. Okorie HM, Obeagu EI, Eze EN, Jeremiah ZA. Assessment of coagulation parameters in malaria infected pregnant women in Imo state, Nigeria. *International Journal of Current Research in Medical Sciences*. 2018;4(9):41-9.
77. Emmanuel 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/>.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

78. 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.
79. 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>
80. 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
81. Nwosu DC, Nwanjo HU, Okolie NJ, Ikeh K, Ajero CM, Dike J, Ojiegbe GC, Oze GO, Obeagu EI, Nnatananya I, Azuonwu O. BIOCHEMICAL ALTERATIONS IN ADULT HIV PATIENTS ON ANTIRETROVIRAL THERAPY. *World Journal of Pharmacy and Pharmaceutical Sciences*, 2015; 4(3): 153-160.
[links/5a4fd0500f7e9bbc10526b38/BIOCHEMICAL-ALTERATIONS-IN-ADULT-HIV-PATIENTS-ON-ANTIRETROVIRAL-THERAPY.pdf](https://www.wjps.in/links/5a4fd0500f7e9bbc10526b38/BIOCHEMICAL-ALTERATIONS-IN-ADULT-HIV-PATIENTS-ON-ANTIRETROVIRAL-THERAPY.pdf).
82. 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.
83. 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/ijcreps.2019.06.12.004
[links/650aba1582f01628f0335795/Adverse-drug-reactions-in-HIV-AIDS-patients-on-highly-active-antiretro-viral-therapy-a-review-of-prevalence.pdf](https://www.ijcreps.in/links/650aba1582f01628f0335795/Adverse-drug-reactions-in-HIV-AIDS-patients-on-highly-active-antiretro-viral-therapy-a-review-of-prevalence.pdf).
84. 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](https://www.ijcrms.in/links/645a4a462edb8e5f094ad37c/Implications-of-CD4-CD8-ratios-in-Human-Immunodeficiency-Virus-infections.pdf).
85. 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](https://www.ijcrms.in/links/5711c47508aeebe07c02496b/Assessment-of-the-level-of-haemoglobin-and-erythropoietin-in-persons-living-with-HIV-in-Umuahia.pdf).
86. 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_Emanuel_Ifeanyi_and_Obeagu_Getrude_Uzoma.EMMA2.pdf.
87. Obeagu EI, Okeke EI, Anode 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.
88. Ibebuikwe 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.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

<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>.

89. Obeagu EI, Obarezi TN, Omeh YN, Okoro NK, Eze OB. Assessment of some haematological and biochemical parameters in HIV patients before receiving treatment in Aba, Abia State, Nigeria. *Res J Pharma Biol Chem Sci*. 2014; 5:825-830.
90. Obeagu EI, Obarezi TN, Ogbuabor BN, Anaebio 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 Pharma Research*. 2014; 391:186-189.
91. 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.
92. 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.
93. Nwosu DC, Obeagu EI, Nkwuocha BC, Nwanna CA, Nwanjo HU, Amadike JN, Ezemima MC, Okpomesine 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.
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.
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. Van Rie A, Harrington PR, Dow A, Robertson K. Neurologic and neurodevelopmental manifestations of pediatric HIV/AIDS: a global perspective. *European journal of paediatric neurology*. 2007;11(1):1-9.
100. Trivedi S, Chakravarty A. Neurological complications of malaria. *Current neurology and neuroscience reports*. 2022;22(8):499-513.
101. 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.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

102. 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.
103. 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.
104. 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.
105. 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.
106. Ogbonna LN, Ezeoru VC, Ofodile AC, Ochiabuto OM, Obi-Ezeani CN, Okpala PU, Okafor CJ, Obeagu GU, Busari AI, Obeagu EI. Gender Based Variations of Haematological Parameters of Patients with Asymptomatic Malaria in Akure, Ondo State, Nigeria. *Journal of Pharmaceutical Research International*. 2021;33(8):75-80.
107. Eberendu IF, Ozims SJ, Agu GC, Amah HC, Obasi CC, Obioma-Elemba JE, Ihakaire DE, Ibanga IE, Amah CC, Obeagu EI, Nwosu DC. Impact of human activities on the breeding of mosquitoes of human disease in Owerri metropolis, Imo state. *Int J Adv Res Biol Sci IJARBS*. 2017;4(12):98-106.
108. Obeagu EI, Ofodile AC, Okwuanaso CB. A review on socio economic and behavioral aspects of malaria and its control among children under 5 years of age in Africa. *J Pub Health Nutri*. 2023; 6 (1): 136.
109. 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.
110. 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.
111. 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.
112. 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.
113. Obeagu EI, Obeagu GU, Obiezu J, Ezeonwumelu C, Ogunnaya FU, Ngwoke AO, Emeka-Obi OR,

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

114. 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.
115. 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.
116. Obeagu EI, Obeagu GU. Unmasking the Truth: Addressing Stigma in the Fight Against HIV. *Elite Journal of Public Health.* 2024;2(1):8-22.
117. 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.
118. Obeagu EI, Obeagu GU. Utilization of immunological ratios in HIV: Implications for monitoring and therapeutic strategies. *Medicine.* 2024;103(9): e37354.
119. Obeagu EI, Obeagu GU. CD8 Dynamics in HIV Infection: A Synoptic Review. *Elite Journal of Immunology.* 2024;2(1):1-3.
120. Obeagu EI, Obeagu GU. Implications of B Lymphocyte Dysfunction in HIV/AIDS. *Elite Journal of Immunology.* 2024;2(1):34-46.
121. Obeagu EI, Obeagu GU. Maternal Influence on Infant Immunological Responses to HIV: A Review. *Elite Journal of Laboratory Medicine.* 2024;2(1):46-58.
122. 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.
123. Obeagu EI, Obeagu GU. Platelet-Driven Modulation of HIV: Unraveling Interactions and Implications. *Journal home page: <http://www.journalijar.com>;*12(01).
124. Obeagu EI, Anyiam AF, Obeagu GU. Managing Hematological Complications in HIV: Erythropoietin Considerations. *Elite Journal of HIV.* 2024;2(1):65-78.
125. 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.journalijar.com>;*12(01).
126. 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.
127. 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.
128. 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.
129. Obeagu EI, Obeagu GU. Transfusion Therapy in HIV: Risk Mitigation and Benefits for Improved Patient Outcomes. *Sciences.* 2024;4(1):32-7.
130. Obeagu EI, Obeagu GU. Mental Health and Psychosocial Effects of natural disaster on HIV Patients. *Sciences.* 2024;4(1):38-44.
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.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

132. 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.
133. 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.
134. 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.
135. 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.
136. 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.
137. Obeagu EI, Obeagu GU. Understanding Hematocrit Fluctuations in HIV-Malaria Coinfection for Improved Management. *Elite Journal of Public Health*. 2024;2(1):22-34.
138. 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.
139. 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.journalijar.com>;12(01)*.
140. 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.
141. 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.
142. Obeagu EI, Obeagu GU. Advancements in HIV Prevention: Africa's Trailblazing Initiatives and Breakthroughs. *Elite Journal of Public Health*. 2024;2(1):52-63.
143. Obeagu EI, Obeagu GU. Maternal Influence on Infant Immunological Responses to HIV: A Review. *Elite Journal of Laboratory Medicine*. 2024;2(1):46-58.
144. 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.
145. Obeagu EI, Anyiam AF, Obeagu GU. Managing Hematological Complications in HIV: Erythropoietin Considerations. *Elite Journal of HIV*. 2024;2(1):65-78.
146. 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.
147. 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.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

148. 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.
149. 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.
150. Obeagu EI, Obeagu GU. Understanding ART and Platelet Functionality: Implications for HIV Patients. *Elite Journal of HIV*. 2024;2(2):60-73.
151. 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.
152. 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.
153. 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.
154. 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.
155. 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.
156. Obeagu EI, Obeagu GU. Harnessing B Cell Responses for Personalized Approaches in HIV Management. *Elite Journal of Immunology*. 2024;2(2):15-28.
157. Obeagu EI, Obeagu GU, Hauwa BA, Umar AI. Neutrophil Dynamics: Unveiling Their Role in HIV Progression within Malaria Patients. *Journal home page: <http://www.journalijar.com>;12(01)*.
158. 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.journalijar.com>;12(01)*.
159. 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.
160. 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.
161. Obeagu EI, Obeagu GU. Platelet Aberrations in HIV Patients: Assessing Impacts of ART. *Elite Journal of Haematology*, 2024; 2 (3):10-24.
162. 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.
163. Obeagu EI, Anyiam AF, Obeagu GU. Erythropoietin Therapy in HIV-Infected Individuals: A Critical Review. *Elite Journal of HIV*. 2024;2(1):51-64.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine*, 2024; 2(4): 55-73

164. 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.
165. 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.
166. 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.
167. 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.
168. Obeagu EI, Obeagu GU. Anemia and Erythropoietin: Key Players in HIV Disease Progression. *Elite Journal of Haematology,* 2024; 2 (3):42-57.
169. Obeagu EI, Obeagu GU. Platelet Dysfunction in HIV Patients: Assessing ART Risks. *Elite Journal of Scientific Research and Review.* 2024;2(1):1-6.
170. 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.
171. Obeagu EI, Obeagu GU. Transfusion Therapy in HIV: Risk Mitigation and Benefits for Improved Patient Outcomes. *Sciences.* 2024;4(1):32-7.
172. Obeagu EI, Obeagu GU. P-Selectin and Immune Activation in HIV: Clinical Implications. *Elite Journal of Health Science.* 2024;2(2):16-29.
173. Obeagu EI, Obeagu GU. Mental Health and Psychosocial Effects of natural disaster on HIV Patients. *Sciences.* 2024;4(1):38-44.
174. 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.
175. 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.
176. 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.
177. 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.
178. 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.
179. Obeagu EI, Obeagu GU. P-Selectin Expression in HIV-Associated Coagulopathy: Implications for Treatment. *Elite Journal of Haematology,* 2024; 2 (3):25-41.
180. 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.
181. 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.

Citation: Obeagu EI, Obeagu GU. Neurocognitive Effects of Blood Transfusion in Children with Severe Malaria and HIV: A Review. *Elite Journal of Medicine,* 2024; 2(4): 55-73

182. Obeagu EI. Erythropoietin and the Immune System: Relevance in HIV Management. *Elite Journal of Health Science*. 2024;2(3):23-35.
183. 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.
184. 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.
185. 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.
186. 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.
187. 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.
188. 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.
189. 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.
190. 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.
191. 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.
192. 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.
193. Obeagu EI, Obeagu GU. Strength in Unity: Building Support Networks for HIV Patients in Uganda. *Elite Journal of Medicine*. 2024;2(1):1-6.
194. 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):111-7.