

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/383860745>

# Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review

Article · September 2024

CITATIONS

64

READS

20

4 authors:



**Emmanuel Ifeanyi Obeagu**

Africa University

2,100 PUBLICATIONS 36,090 CITATIONS

SEE PROFILE



**Rita IFEOMA-OSSY Ogu**

Enugu State University of Science and Technology

11 PUBLICATIONS 65 CITATIONS

SEE PROFILE



**Anthonia Onyinye Ngwoke**

University of Nigeria

17 PUBLICATIONS 349 CITATIONS

SEE PROFILE



**Murtada Abdalla Kheiri**

A'Sharqiyah University

64 PUBLICATIONS 69 CITATIONS

SEE PROFILE

## Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review

\*Emmanuel Ifeanyi Obeagu<sup>1</sup>, Rita Ifeoma-Ossy Ogu<sup>2</sup> and Anthonia Onyinye Ngwoke<sup>2</sup>

<sup>1</sup>Department of Medical Laboratory Science, Kampala International University, Uganda.

<sup>2</sup>Department of Physiology, Faculty of Basic Medical Sciences, Enugu State University of Science and Technology, Enugu State, Nigeria

\*Corresponding author: Emmanuel Ifeanyi Obeagu, Department of Medical Laboratory Science, Kampala International University, Uganda, emmanuelobeagu@yahoo.com, ORCID: 0000-0002-4538-0161

### Abstract

Aplastic anemia (AA) in HIV-positive patients presents a complex interplay of medical and psychosocial challenges that significantly impacts their quality of life. The co-existence of these conditions amplifies the emotional burden, with patients often experiencing heightened anxiety, depression, and a pervasive sense of vulnerability. The dual diagnosis exacerbates the fear of disease progression, complicating the psychological landscape for individuals already managing the chronic stress associated with HIV. Social stigma and isolation are profound issues for these patients, as both HIV and AA are conditions that can lead to societal rejection and alienation. The stigma associated with HIV, coupled with the debilitating effects of AA, often results in social withdrawal and a weakened support system. This isolation further intensifies feelings of loneliness and can hinder effective coping mechanisms, leading to maladaptive behaviors such as substance abuse or denial.

**Keywords:** *Aplastic Anemia, HIV, Psychosocial Impact, Mental Health, Quality of Life*

### Introduction

Aplastic anemia (AA) is a rare but serious condition characterized by bone marrow failure, resulting in the insufficient production of red blood cells, white blood cells, and platelets.<sup>1</sup> This leads to symptoms such as severe fatigue, increased susceptibility to infections, and a heightened risk of bleeding. While aplastic anemia can occur in any population, its diagnosis in HIV-positive patients introduces an additional layer of complexity. HIV itself is associated with various

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46

hematologic abnormalities, and the co-occurrence of AA can exacerbate the already challenging clinical picture.<sup>2</sup> Beyond the physical implications, the diagnosis of AA in HIV patients carries significant psychosocial ramifications, which are often underappreciated in the clinical setting.<sup>3-4</sup> HIV remains a global health issue, with millions of individuals living with the virus. Despite advances in antiretroviral therapy (ART) that have transformed HIV from a fatal disease to a manageable chronic condition, the psychosocial challenges associated with HIV persist. These challenges include stigma, discrimination, and the psychological burden of living with a chronic illness. When compounded by a diagnosis of AA, these issues can become overwhelming, affecting the patient's mental health, quality of life, and ability to adhere to treatment.<sup>5-9</sup> The dual diagnosis of HIV and AA poses a unique set of psychosocial challenges. Patients may experience a heightened sense of fear and uncertainty regarding their health and future. The chronic nature of both conditions can lead to persistent anxiety and depression, as individuals grapple with the unpredictability of their illnesses. The added stress of managing two serious health conditions can also strain personal relationships and social support networks, further isolating the patient. This isolation can exacerbate feelings of loneliness and despair, which are common among those living with chronic illnesses.<sup>10-14</sup>

Stigma is a significant issue for individuals living with HIV, and this stigma can be compounded by a diagnosis of AA.<sup>15</sup> The stigma associated with HIV often stems from misconceptions about the disease, leading to social rejection and discrimination. For many patients, the fear of being ostracized can result in social withdrawal and a reluctance to seek help or disclose their condition to others. The physical symptoms of AA, such as fatigue and frequent infections, can further limit social interactions, reinforcing feelings of isolation and loneliness. This social isolation can have profound effects on mental health, contributing to the development of depression and other psychological disorders.<sup>16-18</sup> Coping with the dual burden of HIV and AA requires effective coping strategies.<sup>19</sup> Some patients may adopt positive coping mechanisms, such as seeking social support, engaging in therapy, or practicing mindfulness and relaxation techniques. These strategies can help mitigate the psychosocial impact of their conditions and improve their overall quality of life. However, not all patients are able to access or utilize these coping strategies. For some, the overwhelming nature of their illnesses can lead to maladaptive behaviors, such as substance abuse, denial, or avoidance. These behaviors can worsen the psychosocial impact and complicate the management of both HIV and AA.<sup>20-24</sup>

The need for integrated care approaches is paramount in managing patients with both HIV and AA.<sup>25</sup> Integrated care models that address both the physical and psychosocial aspects of these conditions can improve patient outcomes and quality of life. Such models should include regular psychological counseling, peer support groups, and patient education, in addition to medical treatment. By providing holistic care that addresses the full spectrum of patient needs, healthcare providers can help alleviate the psychosocial burden of a dual diagnosis.<sup>26-29</sup> Moreover, the role of healthcare providers in addressing the psychosocial needs of these patients cannot be overstated. Providers must be trained to recognize the psychological and social challenges that accompany a dual diagnosis of HIV and AA. Empathy, active listening, and a non-judgmental approach are essential in building trust and ensuring that patients feel supported. Healthcare providers should also be proactive in connecting patients with appropriate psychosocial support services, such as

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46

counseling and support groups, to help them navigate the emotional and social challenges of their conditions.<sup>30-34</sup>

### **The Intersection of Aplastic Anemia and HIV**

The intersection of aplastic anemia (AA) and HIV represents a rare but particularly challenging medical scenario, as both conditions independently impose significant health burdens.<sup>35</sup> Aplastic anemia, characterized by the failure of the bone marrow to produce adequate blood cells, leads to severe pancytopenia. This results in profound anemia, increased susceptibility to infections due to leukopenia, and a heightened risk of bleeding due to thrombocytopenia. HIV, on the other hand, is a virus that attacks the immune system, progressively weakening it and leading to a spectrum of health complications if untreated. When these two conditions coexist, the complexity of patient management increases substantially, necessitating a nuanced understanding of their interplay.<sup>36-40</sup> HIV itself is associated with various hematologic abnormalities, including anemia, thrombocytopenia, and neutropenia, which are often attributed to the direct effects of the virus, opportunistic infections, or the side effects of antiretroviral therapy (ART).<sup>41</sup> The development of aplastic anemia in an HIV-positive patient can exacerbate these hematologic complications, leading to more severe clinical manifestations. The etiology of AA in HIV patients is not always clear but may involve factors such as drug-induced marrow suppression, immune-mediated destruction of hematopoietic stem cells, or the virus's direct impact on bone marrow function. Regardless of the cause, the result is a patient population that is highly vulnerable to infections, bleeding complications, and severe anemia, all of which can significantly impact their quality of life.<sup>42-46</sup>

The management of HIV in patients diagnosed with aplastic anemia presents several unique challenges. First, the treatment of AA often involves immunosuppressive therapy or bone marrow transplantation, which can complicate the management of HIV. Immunosuppressive therapy, while essential for treating AA, can potentially exacerbate HIV replication and increase the risk of opportunistic infections, necessitating careful balancing of therapeutic strategies. Additionally, the use of ART, which is critical for managing HIV, must be carefully evaluated in the context of AA, as certain antiretroviral drugs may contribute to or exacerbate bone marrow suppression.<sup>47-49</sup> From a psychosocial perspective, the dual diagnosis of HIV and AA can lead to significant emotional and psychological distress. Patients may experience heightened anxiety and depression as they navigate the complexities of managing two serious health conditions. The chronic nature of both diseases means that patients must continually cope with the uncertainty of their health status, the potential for life-threatening complications, and the need for ongoing medical care. This constant vigilance can be exhausting and overwhelming, further complicating the patient's ability to maintain a positive outlook and adhere to treatment regimens.<sup>50-54</sup> Moreover, the stigma associated with HIV often compounds the challenges faced by patients with aplastic anemia.<sup>55</sup> Despite significant advancements in the understanding and treatment of HIV, stigma and discrimination remain prevalent, leading to social isolation and marginalization. For patients with both HIV and AA, the physical limitations imposed by their illnesses, such as fatigue and frequent hospital visits, can further restrict social interactions, intensifying feelings of isolation and loneliness. This social

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46

isolation can have a profound impact on mental health, potentially leading to a deterioration in psychological well-being and quality of life.<sup>56-58</sup>

### **Psychosocial Challenges Faced by Patients**

Patients diagnosed with both aplastic anemia (AA) and HIV face a multitude of psychosocial challenges that can significantly affect their mental health and overall well-being.<sup>59</sup> The intersection of these two serious health conditions exacerbates the emotional toll on patients, often leading to a range of psychological issues such as anxiety, depression, and feelings of hopelessness. The chronic nature of both conditions means that patients are continually confronted with the uncertainties of their health, which can be a source of ongoing stress and emotional distress. One of the primary psychosocial challenges is the pervasive fear and anxiety associated with disease progression and the potential for life-threatening complications. For many patients, the dual diagnosis represents a constant reminder of their vulnerability, not only to the effects of HIV but also to the severe complications of AA, such as infections and bleeding. This fear can be particularly overwhelming, leading to chronic anxiety that impacts daily life, sleep, and the ability to focus on treatment and recovery. The psychological burden of managing two complex conditions simultaneously can also contribute to feelings of helplessness and despair, further diminishing the patient's quality of life.<sup>60-64</sup> Stigma is another significant challenge faced by patients with both AA and HIV.<sup>65</sup> Despite advances in HIV treatment and awareness, the social stigma associated with the virus remains a major issue. Patients often experience discrimination, social exclusion, and rejection, which can lead to profound feelings of isolation. When combined with the physical limitations imposed by AA, such as fatigue and the need for frequent medical appointments, this stigma can severely restrict social interactions, leaving patients feeling cut off from their support networks. The isolation resulting from stigma and physical symptoms can exacerbate feelings of loneliness and contribute to the development of depression and other mental health issues.<sup>66-70</sup>

In addition to stigma, the social and financial challenges associated with managing two chronic conditions can place a significant burden on patients and their families. The cost of ongoing medical care, including medications, hospital visits, and potential treatments like bone marrow transplants, can be overwhelming, particularly for those with limited financial resources. This financial strain can lead to increased stress and anxiety, as patients and their families struggle to meet the demands of treatment while also managing other aspects of life. Furthermore, the time and energy required to manage both HIV and AA can interfere with employment, education, and other important life activities, further contributing to social and economic challenges.<sup>71-73</sup> The emotional toll of coping with both AA and HIV can also lead to maladaptive coping mechanisms.<sup>74</sup> Some patients may turn to substance abuse, denial, or avoidance as a way to cope with the overwhelming stress and emotional pain. These behaviors can have detrimental effects on the patient's health, leading to poorer outcomes and complicating the management of both conditions. For instance, substance abuse can interfere with adherence to antiretroviral therapy and other treatments, increasing the risk of disease progression and complications. Additionally, denial and avoidance can prevent patients from seeking necessary medical care, exacerbating their physical and mental health issues.

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46

Family dynamics can also be affected by the dual diagnosis, as loved ones struggle to support the patient while also coping with their own emotional responses. Family members may experience feelings of helplessness, fear, and sadness, which can strain relationships and create additional stress for the patient. The burden of caregiving can be particularly challenging, especially if family members are also dealing with their own health issues or financial difficulties. Effective communication and support within the family are crucial in helping both the patient and their loved ones navigate the complexities of managing HIV and AA.<sup>75</sup> Moreover, the psychological impact of living with both HIV and AA can affect a patient's adherence to treatment.<sup>76</sup> The emotional burden of these conditions, coupled with the physical side effects of treatments, can lead to treatment fatigue, where patients become overwhelmed by the constant need to take medications, attend appointments, and manage side effects. This fatigue can result in non-adherence to treatment regimens, which can have serious consequences for both HIV and AA management. Healthcare providers must be aware of these challenges and work closely with patients to address barriers to adherence, providing support and encouragement to help them stay on track with their treatment plans.

### **The Role of Integrated Care**

Integrated care plays a crucial role in managing the complex needs of patients diagnosed with both aplastic anemia (AA) and HIV, addressing not only the medical but also the psychosocial challenges they face.<sup>77</sup> The dual diagnosis of these conditions requires a holistic approach that combines the expertise of various healthcare professionals, including hematologists, infectious disease specialists, mental health providers, and social workers, to deliver comprehensive care that addresses the full spectrum of patient needs. One of the primary benefits of integrated care is the coordination of treatment strategies to manage both HIV and AA effectively.<sup>78</sup> Given the potential interactions between antiretroviral therapy (ART) and treatments for AA, such as immunosuppressive therapy or bone marrow transplantation, it is essential to have a multidisciplinary team that can carefully monitor and adjust treatment plans as needed. This coordination helps minimize the risk of adverse effects, ensures that both conditions are managed optimally, and allows for more personalized care tailored to the unique needs of each patient. Integrated care also addresses the psychosocial aspects of living with a dual diagnosis, which are often as challenging as the physical symptoms. Mental health support is a critical component of this approach, as patients with HIV and AA are at increased risk for anxiety, depression, and other psychological disorders. Regular counseling sessions, either individual or group-based, can provide patients with a safe space to express their fears and concerns, develop coping strategies, and build resilience. Mental health professionals within an integrated care team can work closely with other providers to ensure that the emotional and psychological needs of patients are not overlooked in the broader context of their medical care.

Social support services are another key element of integrated care, helping patients navigate the practical challenges of living with HIV and AA.<sup>79</sup> These services can include assistance with transportation to medical appointments, help with managing the financial burden of treatment, and connecting patients with community resources such as support groups and patient advocacy organizations. By addressing these practical needs, integrated care helps reduce the stress and

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46

anxiety associated with managing two chronic conditions, allowing patients to focus more on their health and well-being. The role of patient education in integrated care cannot be overstated. Educating patients about both HIV and AA, including the nature of their conditions, the importance of adherence to treatment, and the potential side effects of medications, empowers them to take an active role in their care.<sup>80</sup> Knowledgeable patients are better equipped to make informed decisions about their treatment, communicate effectively with their healthcare team, and adhere to their prescribed regimens. Education also helps demystify the conditions, reducing fear and uncertainty, and fostering a sense of control over their health. Integrated care also facilitates better communication among healthcare providers, which is essential for delivering consistent and coordinated care. With multiple specialists involved in the management of HIV and AA, there is a risk of fragmented care if communication is not well-coordinated.<sup>81</sup> Integrated care models typically involve regular team meetings and shared electronic health records, ensuring that all providers are on the same page regarding the patient's treatment plan and any changes in their condition. This collaborative approach not only enhances the quality of care but also helps prevent medical errors and ensures that the patient receives timely and appropriate interventions.

Moreover, integrated care can play a significant role in improving patient adherence to treatment regimens. The emotional and psychological support provided by an integrated care team can help patients overcome the barriers to adherence, such as treatment fatigue, fear of side effects, or feelings of hopelessness. By addressing these barriers through counseling, education, and support, integrated care helps patients stay motivated and engaged in their treatment, which is critical for managing both HIV and AA effectively. Additionally, integrated care teams can monitor adherence closely and intervene early if a patient is struggling, providing additional support or adjusting the treatment plan as needed.<sup>80</sup> Finally, integrated care enhances the overall patient experience, making the healthcare system more navigable and less overwhelming for those with complex needs. Patients with a dual diagnosis of HIV and AA often face a daunting array of medical appointments, treatments, and lifestyle adjustments. An integrated care approach streamlines this process, offering a more patient-centered experience where care is coordinated, accessible, and responsive to their needs. This approach not only improves health outcomes but also enhances the quality of life for patients, helping them manage their conditions more effectively and with greater confidence.<sup>81</sup>

## Conclusion

The coexistence of aplastic anemia (AA) and HIV presents a uniquely challenging clinical scenario that demands a comprehensive and multifaceted approach to patient care. The intersection of these two serious conditions amplifies the physical, emotional, and social burdens on patients, necessitating a treatment strategy that goes beyond standard medical interventions. While the medical management of AA and HIV is complex and requires careful coordination of therapies to avoid adverse interactions and optimize outcomes, the psychosocial aspects of care are equally crucial. Patients with this dual diagnosis often face significant psychological distress, social isolation, and stigma, which can exacerbate their physical symptoms and complicate treatment adherence. Integrated care emerges as a critical model for addressing the full spectrum of challenges associated with AA and HIV. By bringing together a multidisciplinary team of

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46

healthcare providers, including hematologists, infectious disease specialists, mental health professionals, and social workers, integrated care ensures that all aspects of the patient's health are addressed. This approach not only improves the coordination of medical treatments but also provides essential psychological support, practical assistance, and patient education, empowering patients to manage their conditions more effectively.

## References

1. Furlong E, Carter T. Aplastic anaemia: Current concepts in diagnosis and management. *Journal of paediatrics and child health*. 2020;56(7):1023-1028.
2. Chichetto NE, Polanka BM, So-Armah KA, Sung M, Stewart JC, Koethe JR, Edelman EJ, Tindle HA, Freiberg MS. Contribution of behavioral health factors to non-AIDS-related comorbidities: an updated review. *Current HIV/AIDS Reports*. 2020; 17:354-372.
3. Obeagu EI, Anyiam AF, Obeagu GU. Managing Hematological Complications in HIV: Erythropoietin Considerations. *Elite Journal of HIV*, 2024; 2(1): 65-78
4. 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)*.
5. Obeagu EI, Obeagu GU. Maternal Influence on Infant Immunological Responses to HIV: A Review. *Elite Journal of Laboratory Medicine*, 2024; 2(1): 46-58
6. 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
7. Obeagu EI, GU Obeagu. Unmasking the Truth: Addressing Stigma in the Fight Against HIV. *Elite Journal of Public Health*, 2024; 2 (1): 8-22
8. Obeagu EI, Obeagu GU. Platelet-Driven Modulation of HIV: Unraveling Interactions and Implications. *Journal home page: <http://www.journalijar.com>. 2024;12(01)*.
9. 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
10. Obeagu EI, Obeagu GU. Implications of B Lymphocyte Dysfunction in HIV/AIDS. *Elite Journal of Immunology*, 2024; 2(1): 34-46
11. 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): 1-15
12. 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
13. 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
14. Obeagu EI, Obeagu GU. CD8 Dynamics in HIV Infection: A Synoptic Review. *Elite Journal of Immunology*, 2024; 2(1): 1-13

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46

15. Felker-Kantor EA, Wallace ME, Madkour AS, Duncan DT, Andrinopoulos K, Theall K. HIV stigma, mental health, and alcohol use disorders among people living with HIV/AIDS in New Orleans. *Journal of urban health*. 2019; 96:878-888.
16. Obeagu EI, Obeagu GU. Mental Health and Psychosocial Effects of natural disaster on HIV Patients. *Asian J Dental Health Sci* 2024;4(1):38-44. Available from: <http://ajdhs.com/index.php/journal/article/view/63>
17. Obeagu EI, Anyanwu CN, Obeagu GU. Challenges and Considerations in Managing Blood Transfusion for Individuals with HIV. *Elite Journal of HIV*, 2024; 2(2): 1-17
18. Obeagu EI, Obeagu GU. Understanding Hematocrit Fluctuations in HIV-Malaria Coinfection for Improved Management. *Elite Journal of Public Health*, 2024; 2 (1): 22-34
19. Skalski LM, Sikkema KJ, Heckman TG, Meade CS. Coping styles and illicit drug use in older adults with HIV/AIDS. *Psychology of Addictive Behaviors*. 2013;27(4):1050.
20. Obeagu EI, Ayogu EE, Obeagu GU. Interactions between Blood Transfusion and Antiretroviral Medications: Implications for Patient Care. *Elite Journal of Medicine*, 2024; 2(2):104-115
21. 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.
22. 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.
23. 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):64-7.
24. 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.
25. Hill K, Kuo I, Shenoj SV, Desruisseaux MS, Springer SA. Integrated care models: HIV and substance use. *Current HIV/AIDS Reports*. 2023;20(5):286-295.
26. 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
27. 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
28. 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 J Dental Health Sci [Internet]*. 2023 Jun. 15 [cited 2024 Sep. 7];3(2):7-14. Available from: <http://ajdhs.com/index.php/journal/article/view/39>
29. 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.

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46

30. 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
31. Alum EU, Obeagu EI, Ugwu OP, Samson AO, Adepoju AO, Amusa MO. Inclusion of nutritional counseling and mental health services in HIV/AIDS management: A paradigm shift. *Medicine*. 2023 Oct 13;102(41):e35673.
32. 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
33. 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.
34. 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).
35. Goodwin M. *Black markets: the supply and demand of body parts*. Cambridge University Press; 2006.
36. 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
37. 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
38. 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.
39. Obeagu EI, Anyiam AF, Obeagu GU. Erythropoietin Therapy in HIV-Infected Individuals: A Critical Review. *Elite Journal of HIV*, 2024; 2(1): 51-64
40. Obeagu EI, Obeagu GU. Strength in Unity: Building Support Networks for HIV Patients in Uganda. *Elite Journal of Medicine*, 2024; 2(1): 1-16
41. Mandania EW. Haematological and Immunological Abnormalities in People Living With HIV: A Review. *Journal of Medical and Biomedical Laboratory Sciences Research*. 2024;4(1).
42. 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
43. 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.
44. 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
45. Obeagu EI, Elamin EAI Obeagu GU. Understanding the Intersection of Highly Active Antiretroviral Therapy and Platelets in HIV Patients: A Review. *Elite Journal of Haematology*, 2024; 2(3): 111-117
46. Obeagu EI, Obeagu GU. Understanding ART and Platelet Functionality: Implications for HIV Patients. *Elite Journal of HIV*, 2024; 2(2): 60-73

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46

47. 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
48. 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).
49. 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
50. Obeagu EI. Erythropoietin and the Immune System: Relevance in HIV Management. *Elite Journal of Health Science*, 2024; 2(3): 23-35
51. Obeagu EI, Obeagu GU. Anemia and Erythropoietin: Key Players in HIV Disease Progression. *Elite Journal of Haematology*, 2024; 2(3): 42-57
52. 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
53. 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
54. 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
55. American Psychiatric Association. Practice guideline for the treatment of patients with HIV/AIDS. *American Psychiatric Pub*; 2000.
56. 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.
57. 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
58. Obeagu EI, Obeagu GU. Advancements in HIV Prevention: Africa's Trailblazing Initiatives and Breakthroughs. *Elite Journal of Public Health*, 2024; 2 (1): 52-63
59. Sukumaran RK. Long-Term Follow-Up and Chronic Complications. *Contemporary Bone Marrow Transplantation*. 2021:641-665.
60. Obeagu EI, Obeagu GU. Platelet Aberrations in HIV Patients: Assessing Impacts of ART. *Elite Journal of Haematology*, 2024; 2(3): 10-24
61. 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
62. Obeagu EI, Obeagu GU. Harnessing B Cell Responses for Personalized Approaches in HIV Management. *Elite Journal of Immunology*, 2024; 2(2): 15-28
63. 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

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46

64. 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
65. Lyimo RA, Stutterheim SE, Hospers HJ, de Glee T, van der Ven A, de Bruin M. Stigma, disclosure, coping, and medication adherence among people living with HIV/AIDS in Northern Tanzania. *AIDS patient care and STDs*. 2014;28(2):98-105.
66. 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
67. Obeagu EI, Obeagu GU. Impact of Maternal Eosinophils on Neonatal Immunity in HIV-Exposed Infants: A Review. *Elite Journal of Immunology*, 2024; 2(3): 1-18
68. 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
69. 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
70. Obeagu EI, Obeagu GU. P-Selectin Expression in HIV-Associated Coagulopathy: Implications for Treatment. *Elite Journal of Haematology*, 2024; 2(3): 25-41
71. Obeagu EI, Obeagu GU. P-Selectin and Immune Activation in HIV: Clinical Implications. *Elite Journal of Health Science*, 2024; 2(2): 16-29
72. Obeagu EI, Amaeze AA, Ogbu ISI, 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
73. Obeagu EI, Obeagu, GU. Platelet Dysfunction in HIV Patients: Assessing ART Risks. *Elite Journal of Scientific Research and Review*, 2024; 2(1): 1-16
74. Banerjee N, Goodman ZT, McIntosh R, Ironson G. Cognition, coping, and psychological distress in HIV. *AIDS and Behavior*. 2022;26(4):1074-1083.
75. Grau LE, Griffiths-Kundishora A, Heimer R, Hutcheson M, Nunn A, Towey C, Stopka TJ. Barriers and facilitators of the HIV care continuum in Southern New England for people with drug or alcohol use and living with HIV/AIDS: perspectives of HIV surveillance experts and service providers. *Addiction science & clinical practice*. 2017; 12:1-4.
76. Yu Y, Luo D, Chen X, Huang Z, Wang M, Xiao S. Medication adherence to antiretroviral therapy among newly treated people living with HIV. *BMC public health*. 2018; 18:1-8.
77. Li H, Wu X, Shen J, Lou S. Perspective and experience of patients with aplastic anemia on medication adherence. *Patient preference and adherence*. 2023:2215-2225.
78. Beichler H, Grabovac I, Dorner TE. Integrated care as a model for interprofessional disease management and the benefits for people living with HIV/AIDS. *International Journal of Environmental Research and Public Health*. 2023;20(4):3374.
79. Rajabiun S, Tryon J, Feaster M, Pan A, McKeithan L, Fortu K, Cabral HJ, Borne D, Altice FL. The influence of housing status on the HIV continuum of care: results from a multisite study of patient navigation models to build a medical home for people living with HIV experiencing homelessness. *American Journal of Public Health*. 2018;108(S7):S539-45.

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46

80. Dale SK, Safren SA. Striving towards empowerment and medication adherence (STEP-AD): a tailored cognitive behavioral treatment approach for black women living with HIV. *Cognitive and Behavioral Practice*. 2018;25(3):361-376.
81. Ngcobo S, Scheepers S, Mbatha N, Grobler E, Rossouw T. Roles, barriers, and recommendations for community health workers providing community-based HIV Care in Sub-Saharan Africa: a review. *AIDS Patient Care and STDs*. 2022;36(4):130-144.

**Citation:** Obeagu EI, Ogu RIO, Ngwoke AO. Psychosocial Impact of Aplastic Anemia Diagnosis in HIV Patients: A Narrative Review. *Elite Journal of Public Health*, 2024; 2 (7): 35-46