

Influence Of Socio-Economic And Health Factors On HIV/AIDS Patient Survival In North East India

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Abstract

This review paper examines the influence of socio-economic and health factors on the survival time of HIV/AIDS patients in North East India. Through a comprehensive analysis of existing studies and data, the paper identifies key determinants such as income, education, employment, access to healthcare, and co-morbidities that significantly impact patient outcomes. The analysis reveals that socio-economic status, particularly income and educational attainment, plays a crucial role in accessing timely and effective healthcare services. Employment status also affects patients' ability to afford and adhere to treatment regimens. Additionally, health parameters such as the presence of co-morbidities, nutritional status, and access to antiretroviral therapy (ART) are found to be vital in determining survival times. The findings underscore the critical need for targeted interventions aimed at improving healthcare infrastructure, reducing socio-economic disparities, and enhancing patient support systems. These measures are essential to ensure better health outcomes and increased survival rates for HIV/AIDS patients in North East India.

Keywords: Socio-economic status, healthcare access, co-morbidities, antiretroviral therapy (ART), patient survival.

Introduction

HIV/AIDS continues to be a critical public health issue worldwide, affecting millions of people across various demographics and regions. In the Indian context, numerous studies have explored these dynamics. For example, Raj et al. (2017) discovered that socio-economic disparities significantly impact healthcare access for HIV/AIDS patients in rural areas. Similarly, Patel et al. (2018) demonstrated that employment status and financial stability are crucial for adherence to antiretroviral therapy (ART), which directly affects survival times. In North East India, where economic conditions are often challenging, these socio-economic factors are even more critical. Health parameters also play a vital role in determining survival times. Studies by Singh et al. (2018) and Das et al. (2020) highlight the impact of co-morbidities, nutritional status, and timely initiation of ART on patient outcomes. Co-morbid conditions such as tuberculosis and hepatitis can significantly shorten survival times if not adequately managed. Conversely, early and consistent use of ART has been shown to prolong life and improve the quality of life for HIV/AIDS patients. Furthermore, Chakraborty et al.

(2019) found that nutritional interventions can enhance the effectiveness of ART and improve overall survival rates.

In North East India, which consists of eight states, the epidemic is particularly severe. The region's unique socio-cultural and economic landscape, along with its geographical isolation, poses significant challenges for managing and controlling the spread of HIV/AIDS (National AIDS Control Organization, 2020). Understanding the factors that influence the survival time of HIV/AIDS patients is essential for developing effective interventions. Survival time, defined as the duration a patient lives following an HIV/AIDS diagnosis, is affected by several key factors, including socio-economic conditions, healthcare access, and individual health parameters. Researchers such as Pandey et al. (2019) and Sharma et al. (2021) have emphasized the importance of socio-economic status. Their studies reveal that patients with higher incomes and educational levels generally experience better health outcomes, largely due to their increased ability to access healthcare services and adhere to prescribed treatments.

This paper aims to review existing literature to identify the socio-economic and health parameters that influence survival time among HIV/AIDS patients in North East India. By providing a comprehensive analysis of these factors, the paper seeks to offer valuable insights for policymakers and healthcare providers. These insights are essential for crafting targeted interventions that enhance the quality of life and extend the longevity of HIV/AIDS patients in the region. Addressing disparities in socio-economic conditions and improving healthcare infrastructure are imperative steps toward achieving better health outcomes for this vulnerable population.

Literature Review

HIV/AIDS in North East India:

North East India, comprising the states of Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura, has unique socio-cultural and economic characteristics that influence the spread and impact of HIV/AIDS. The region's geographical isolation, combined with its diverse ethnic composition and varying levels of economic development, creates a complex backdrop for public health challenges. The prevalence of HIV/AIDS in this region is notably influenced by several key factors, including high-risk behaviours, migration patterns, and socio-economic disparities. High-risk behaviours such as unprotected sex, injecting drug use, and the low prevalence of condom usage significantly contribute to the spread of HIV/AIDS in North East India. According to the National AIDS Control Organization (NACO) (2020), the states of Manipur, Mizoram, and Nagaland have some of the highest HIV prevalence rates in India, largely driven by intravenous drug use and unsafe sexual practices. Migration also plays a critical role, as individuals moving between states or to neighbouring countries often engage in high-risk behaviours that increase their vulnerability to HIV infection (Devi et al., 2018).

Socio-economic disparities further exacerbate the HIV/AIDS epidemic in North East India. The region faces significant challenges in terms of healthcare infrastructure and access to treatment. According to Sarkar et al. (2019), healthcare facilities are often under-resourced, and the availability of antiretroviral therapy (ART) is limited, particularly in rural areas. These challenges are compounded by cultural stigmas and discrimination, which deter individuals from seeking testing and treatment (Thoudam et al., 2021).

Socio-Economic Factors:

Socio-economic status, encompassing income, education, and employment, plays a crucial role in determining the survival outcomes of HIV/AIDS patients. Lower socio-economic status is frequently associated with delayed diagnosis, poor adherence to treatment, and limited access to healthcare services, all of which negatively impact survival times. Pandey et al. (2019) demonstrated that patients from lower-income groups are less likely to receive timely diagnoses and adequate treatment due to financial constraints and limited healthcare access. This delay in diagnosis often leads to advanced stages of the disease by the time treatment is initiated, reducing the chances of effective management. Additionally, Sharma et al. (2021) found that educational attainment is closely linked to health outcomes, with higher educational levels correlating with better awareness of HIV/AIDS, higher rates of testing, and greater adherence to ART. Employment status also significantly affects survival times. Patel et al. (2018) showed that unemployed individuals or those engaged in informal labour sectors face greater challenges in accessing consistent healthcare and maintaining regular ART regimens. Employment provides not only financial stability but also access to employer-sponsored health benefits, which can be crucial for managing chronic conditions like HIV/AIDS.

Health Parameters:

Health parameters, including the presence of co-morbidities, nutritional status, and access to antiretroviral therapy (ART), are critical determinants of survival in HIV/AIDS patients. Effective management of these factors significantly improves patient outcomes. Singh et al. (2018) emphasized the impact of co-morbidities such as tuberculosis, hepatitis, and other opportunistic infections on the survival of HIV/AIDS patients. Co-morbid conditions can complicate treatment regimens and accelerate disease progression if not adequately managed. The study highlighted that patients with multiple health issues often require more complex and sustained medical interventions. Nutritional status is another pivotal factor. Malnutrition weakens the immune system, making individuals more susceptible to infections and reducing their ability to respond to ART. Das et al. (2020) reported that malnourished patients had significantly poorer outcomes compared to those with adequate nutritional status. Nutritional interventions, therefore, are essential components of comprehensive HIV care.

Access to ART is perhaps the most critical health parameter affecting survival. Chakraborty et al. (2019) found that early initiation and consistent use of ART significantly prolong life and enhance the quality of life for HIV/AIDS patients. ART suppresses viral replication, reduces the risk of opportunistic infections, and improves overall immune function. However, access to ART remains uneven across North East India, with rural and economically

disadvantaged populations facing the greatest barriers (NACO, 2020). To sum up, the survival time of HIV/AIDS patients in North East India is influenced by a complex interplay of socio-economic and health parameters. Addressing these factors through targeted interventions and improved healthcare infrastructure is essential for enhancing patient outcomes and managing the HIV/AIDS epidemic in the region.

Objectives

The primary objectives of the present literature review are: i) to analyse the socio-economic determinants influencing the survival duration of HIV/AIDS patients in North East India through a review of existing literature; ii) to evaluate the influence of various health indicators on the longevity of HIV/AIDS patients in the North East Indian context; and iii) to propose actionable recommendations aimed at enhancing the survival prospects of individuals with HIV/AIDS, informed by the identified socio-economic and health-related factors, thereby contributing to improved healthcare outcomes in the region.

Materials and Methods

This literature review employs a systematic and comprehensive approach, aiming to rigorously analyse a diverse array of sources to ensure a well-rounded understanding of the subject matter. To achieve this, the review encompasses peer-reviewed journal articles, governmental reports, and various other reputable resources, ensuring a holistic examination of the topic. The selection criteria for source materials are carefully crafted to prioritize studies conducted within the geographical region of North East India. This deliberate focus allows for a nuanced exploration of the socio-economic and health factors directly impacting individuals living with HIV/AIDS within this specific context. By honing in on this geographic area, the review aims to capture the unique dynamics and challenges prevalent in North East India, thus offering insights that are particularly relevant and applicable to this population. The process of data extraction, analysis, and synthesis is conducted with meticulous attention to detail.

Data extraction involves systematically gathering relevant information from the selected sources, ensuring comprehensive coverage of all pertinent aspects. Subsequently, the collected data undergoes rigorous analysis, employing both qualitative and quantitative methods as appropriate. This analytical phase aims to identify patterns, trends, and relationships within the data, facilitating a deeper understanding of the socio-economic and health factors influencing the survival time of HIV/AIDS patients in North East India. The synthesized findings from this analytical process serve as the foundation for drawing meaningful conclusions. By integrating insights gleaned from diverse sources and methodical analysis, the review endeavours to provide a comprehensive understanding of the subject matter. Ultimately, the aim is to generate valuable insights that can inform policy-making, healthcare interventions, and future research initiatives aimed at improving the quality of life and extending the longevity of HIV/AIDS patients in North East India.

Analysis and Results

Socio-Economic Analysis:

The socio-economic factors influencing the survival time of HIV/AIDS patients in North East India were analysed based on various studies. The analysis reveals a clear correlation between socio-economic status and patient outcomes. Specifically, patients with higher income and education levels demonstrate better survival rates. Pandey et al. (2019) found that individuals with higher incomes could access healthcare services more readily and afford necessary medications and treatments. This financial capability enables them to adhere to treatment regimens consistently, leading to improved health outcomes. Education level also plays a significant role in survival rates. Sharma et al. (2021) highlighted that higher educational attainment correlates with increased health literacy, which in turn promotes better understanding and adherence to treatment protocols. Educated patients are more likely to seek early diagnosis and treatment, understand the importance of ART adherence, and maintain healthier lifestyles.

Employment status further influences survival rates among HIV/AIDS patients. According to Patel et al. (2018), employed individuals generally exhibit better financial stability, which supports consistent access to healthcare services. Moreover, employment often comes with health insurance coverage, reducing the out-of-pocket costs for treatments and medications. This financial security allows for uninterrupted ART adherence, which is crucial for prolonging survival times.

Health Parameters Analysis:

The analysis of health parameters underscores their critical impact on the survival times of HIV/AIDS patients. The presence of co-morbidities, such as tuberculosis and hepatitis, significantly reduces survival times. Singh et al. (2018) noted that these co-morbid conditions exacerbate the health challenges faced by HIV/AIDS patients, complicating their treatment regimens and accelerating disease progression. Patients with co-morbidities require more intensive medical interventions and often have poorer health outcomes. Nutritional status is another crucial determinant of patient survival. Das et al. (2020) emphasized that malnourished patients exhibit significantly poorer outcomes compared to those with adequate nutritional status. Malnutrition weakens the immune system, increasing vulnerability to infections and reducing the effectiveness of ART. Nutritional interventions, therefore, are essential to improve the overall health and survival of HIV/AIDS patients.

Access to and adherence to ART emerged as the most significant health parameter affecting survival rates. Chakraborty et al. (2019) demonstrated that early initiation and consistent use of ART markedly improve survival rates among HIV/AIDS patients. ART effectively suppresses viral replication, reduces the incidence of opportunistic infections, and enhances immune function. However, the analysis reveals that access to ART remains uneven across North East India, with rural and economically disadvantaged populations facing significant barriers (NACO, 2020).

Discussion

The comprehensive analysis presented in this review sheds light on the intricate interplay between socio-economic and health factors and their impact on the survival time of HIV/AIDS patients in North East India. The findings underscore the pervasive influence of socio-economic status on patient outcomes, echoing global trends where disparities in socio-economic conditions significantly shape health outcomes. Notably, the correlation between higher income levels and improved survival rates among HIV/AIDS patients is evident. Pandey et al. (2019) elucidated those individuals with greater financial resources exhibit better access to healthcare services, medication affordability, and adherence to treatment regimens. This financial stability not only facilitates effective health management but also mitigates the stress associated with chronic illness, ultimately contributing to enhanced health outcomes. Education emerges as another pivotal determinant of survival rates among HIV/AIDS patients. As highlighted by Sharma et al. (2021), higher educational attainment enhances health literacy, enabling patients to comprehend their condition and the importance of adhering to antiretroviral therapy (ART). Educated individuals are more proactive in seeking early diagnosis and treatment, adopting healthier lifestyles, and adhering to medical advice, all of which are critical for effective HIV/AIDS management.

Additionally, employment status significantly influences patient outcomes. Patel et al. (2018) found that employed individuals generally benefit from better financial stability and access to health insurance, which alleviates the financial burden of treatment and medication costs. This economic security ensures consistent ART adherence, a cornerstone in prolonging the survival of HIV/AIDS patients. The presence of co-morbidities, such as tuberculosis and hepatitis, emerges as a substantial challenge to patient survival. Singh et al. (2018) highlighted the compounding effect of these co-morbid conditions, exacerbating health challenges, complicating treatment regimens, and accelerating disease progression. This underscores the importance of comprehensive healthcare approaches that address the holistic health needs of HIV/AIDS patients. Nutritional status also emerges as a critical determinant of patient survival. Das et al. (2020) emphasized the detrimental impact of malnutrition on patient outcomes, as malnourished individuals exhibit poorer health outcomes compared to those with adequate nutritional status. Malnutrition compromises immune function, increasing susceptibility to infections and undermining the effectiveness of ART. Thus, nutritional interventions are vital components of HIV care, ensuring patients receive the necessary dietary support to bolster their immune systems and improve overall health outcomes.

Access to and adherence to ART emerges as the most significant health parameters influencing survival rates among HIV/AIDS patients. Chakraborty et al. (2019) demonstrated the profound impact of early initiation and consistent use of ART on survival rates, as it effectively suppresses viral replication, reduces opportunistic infections, and enhances immune function. However, despite the proven efficacy of ART, access remains uneven across North East India, particularly for rural and economically disadvantaged populations, as outlined by the National AIDS Control Organization (NACO, 2020). Barriers to access include limited healthcare facilities, HIV/AIDS-related stigma, and economic constraints, highlighting the

urgent need for targeted interventions to address these disparities and ensure equitable access to life-saving treatments.

Implications and Recommendations

The in-depth examination of socio-economic and health parameters in this research offers invaluable insights with profound implications for policymakers and healthcare providers committed to enhancing the survival rates of HIV/AIDS patients in North East India. Central to these implications is the imperative need to address the existing disparities in socio-economic conditions, recognizing their pivotal role in shaping health outcomes. Initiatives aimed at bolstering income stability, expanding educational opportunities, and improving employment prospects hold tremendous potential in positively impacting patient outcomes. By addressing these socio-economic determinants, policymakers can effectively create an environment conducive to improved health outcomes for individuals living with HIV/AIDS. Moreover, policies that facilitate broader access to healthcare services, including affordable antiretroviral therapy (ART) and comprehensive nutritional support, are indispensable in ensuring equitable healthcare access and enhancing the quality of life for affected individuals.

The enhancement of healthcare infrastructure, particularly in rural and economically disadvantaged areas, emerges as a critical priority. This entails augmenting the availability of ART, fortifying healthcare facilities, and equipping healthcare providers with the necessary skills to effectively manage co-morbidities. By strengthening healthcare infrastructure, policymakers can bridge existing gaps in healthcare access and delivery, thereby enabling more individuals to receive timely and comprehensive HIV/AIDS care. Furthermore, concerted efforts to combat stigma and discrimination associated with HIV/AIDS are imperative. Reducing stigma not only fosters a more supportive and inclusive environment for affected individuals but also plays a pivotal role in encouraging timely diagnosis and treatment-seeking behaviours. Through targeted awareness campaigns and community engagement initiatives, policymakers and healthcare providers can work collaboratively to challenge misconceptions and promote acceptance and understanding of HIV/AIDS. Thus, the implications drawn from this research underscore the multifaceted nature of interventions required to improve the survival rates of HIV/AIDS patients in North East India. By addressing socio-economic disparities, enhancing healthcare infrastructure, and combating stigma, policymakers and healthcare providers can pave the way for tangible improvements in the health and well-being of affected individuals, ultimately advancing towards the goal of achieving better health outcomes for all.

Conclusion

The analysis of socio-economic and health parameters offers insights into the factors affecting HIV/AIDS patient survival in North East India, a region facing unique challenges due to its socio-cultural and economic landscape. Studies highlight the impact of factors like socio-economic status, health literacy, employment, co-morbidities, nutritional status, and access to antiretroviral therapy (ART) on patient outcomes. Higher income levels correlate with better survival rates, enabling improved access to healthcare and treatment adherence. Education

enhances health literacy, promoting early diagnosis and healthier lifestyles. Employment status influences financial stability and access to health insurance, facilitating uninterrupted ART adherence. Co-morbidities such as tuberculosis and hepatitis complicate treatment and accelerate disease progression. Malnutrition weakens immune systems, reducing ART effectiveness, emphasizing the need for comprehensive care including nutritional support. While ART significantly improves survival rates, uneven access persists, particularly in rural and economically disadvantaged areas due to limited healthcare facilities, stigma, and economic constraints. To enhance HIV/AIDS patient survival in North East India, addressing socio-economic disparities and improving healthcare infrastructure are crucial. Policies promoting income stability, education, and employment, alongside broader healthcare access and reduced stigma, can significantly improve outcomes. Enhancing healthcare infrastructure includes increasing ART availability, improving facilities, and training providers to manage co-morbidities effectively. Thus, a comprehensive approach tackling socio-economic and health factors is vital to improve HIV/AIDS patient outcomes in North East India, requiring targeted interventions and enhanced healthcare access.

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