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Socio-economic Implications of Malaria Treatment for Children and the Attainment of Quality Healthcare in Ibesikpo Asutan Local Government Area, Akwa Ibom State, Nigeria

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Abstract

The fight towards quality healthcare services and the reduction of malaria burden in the last decade has indeed attained great strides. Malaria is a parasitic infection disease caused by species of plasmodium parasites. In malaria treatment -seeking, socioeconomic structures can constraint choices of where to seek treatment, knowledge level and perception of the illness in the society believe system. Therefore, this study examined the socio-economic impacts of malaria treatment among children and the need for quality healthcare in Ibesikpo Asutan local Government Area, Akwa Ibom State. It was guided by cultural-bound theory of disease, health belief model and socio-economic deprivation theory. The study purposively selected 10 communities in Ibesikpo Asutan LGA. These communities were Ikot Obio Edim, Ikot Nkim, Nung Ete, Afaha Atai, Afaha Etok, Ikot Udo, Ikot Abasi Idem, Afaha Ikot Osom, Afaha Ikot Obio Nkan and Afaha Udo Eyop. This study employed cross sectional survey design with a focus group discussion (FGDs) and in-depth interviews for data collection. A total of 100 respondents constitute the sample for this study. Data collected were analysed thematically. Results revealed that children from low-income families (rural) were at risk of malaria disease due to limited access to quality healthcare for prevention. The study concludes that strengthening primary healthcare system and addressing socio-economic barriers are essential for sustainable malaria control and equitable health outcomes among children in Ibesikpo Asutan Local Government Area, Akwa Ibom State, Nigeria.

Keywords: Socioeconomic impacts, malaria treatment, children and quality healthcare.

Introduction

Malaria is an infectious disease caused by parasitic protozoa of the genus *Plasmodium* that invade the red blood cells of infected individuals. Transmission occurs primarily through the

bite of the female *Anopheles* mosquito, and the disease is largely confined to tropical and subtropical regions (Martin, 2002). In 2022, malaria was responsible for approximately 600,000 deaths globally, with Africa accounting for a substantial proportion of this burden. Malaria remains a major public health challenge on the continent and is ranked among the leading infectious disease threats, alongside pneumococcal acute respiratory infections and tuberculosis. In Nigeria, malaria continues to impede socioeconomic development, prompting successive governments to adopt policy frameworks such as the Roll Back Malaria initiative, the National Economic Empowerment and Development Strategy, and targets aligned with the Millennium and Sustainable Development Goals (Daniel, 2011).

The incidence, treatment, and control of malaria in Nigeria are significantly influenced by socioeconomic and cultural factors. Evidence suggests that malaria-related morbidity and mortality are closely associated with household socioeconomic status, with lower-income

families experiencing higher disease burden (Heggenhougen et al., 2003). Human behaviours, including settlement patterns, mobility, agricultural activities, and health-seeking practices, have been shown to influence malaria prevalence. In addition, cultural beliefs and practices play a critical role in shaping perceptions of illness and responses to treatment (Ben et al., 2018). Addressing these determinants is therefore essential to effective malaria control and prevention. Consequently, the successful management of malaria in Nigeria remains central to improving healthcare quality and achieving the health-related targets of the Sustainable Development Goals (Daniel, Akpan and Ekpo, 2025).

It is important to note that many anti-malaria programmes implemented prior to the 1990s were largely culturally insensitive and failed to adequately consider local belief systems, socioeconomic conditions, and healthcare-seeking behaviours. Such limitations undermined programme effectiveness and treatment compliance. Reducing malaria transmission and improving health outcomes therefore require not only medical interventions but also greater attention to community attitudes, understanding, and adherence to prescribed treatments. There is a pressing need to examine the socioeconomic and cultural factors influencing malaria treatment-seeking behaviour, particularly in rural communities. Accordingly, this study assesses the socioeconomic factors associated with malaria treatment in Ibesikpo Asutan Local Government Area of Akwa Ibom State, Nigeria, with the aim of contributing to the achievement of quality healthcare and the Sustainable Development Goals.

Statement of the Problem

The burden of malaria treatment and its epidemiological trends indicate a substantial socio-economic impact, significantly constraining economic growth and socio-biological development. Malaria accounts for a considerable proportion of disease burden in rural communities, where it is estimated to represent over 20 per cent of total morbidity, with children under five years of age and pregnant women being the most vulnerable groups (WHO, 2000). Studies by Daniel et al. (2025) identify poverty as a critical barrier to effective malaria treatment and burden reduction in rural settings. Additionally, family social status has been shown to influence malaria outcomes, with the Roll Back Malaria initiative (RBM, 2000) estimating that malaria has slowed economic growth in African countries by approximately 1.3 per cent annually, contributing to a cumulative reduction of up to 32 per cent in gross domestic product.

Socio-economic factors exert a profound influence on malaria treatment-seeking behaviour. Human behaviour, shaped by social, cultural, economic, and political contexts, is closely linked to health outcomes and vulnerability to infectious diseases such as malaria (Heggenhougen, 2003). Behavioural practices may inadvertently promote disease transmission and increase health risks (Ben and Udom, 2025). As observed by Horn and Brown (1990), culturally embedded patterns of behaviour can facilitate the spread of infectious diseases by altering interactions between pathogens, hosts, and the environment. These behavioural dynamics underscore the importance of understanding the socio-cultural context in which malaria transmission and treatment occur, particularly in rural and resource-constrained communities.

Environmental and developmental changes further exacerbate malaria transmission in rural areas such as Ibesikpo Asutan. Population influx and infrastructural developments, including drainage projects, have altered local ecosystems, creating favourable conditions for mosquito breeding and disease transmission. Agricultural expansion has similarly contributed to deforestation and changes in drainage systems, increasing vector–human contact (Heggenhougen et al., 2003). In Nigeria, malaria treatment practices are deeply rooted in socio-cultural traditions, with the use of herbs, tree bark, and traditional remedies remaining common in communities such as Ibesikpo Asutan (Offong et al., 2023). While healthcare interventions,

including insecticide-treated nets, have proven effective (Ben and Daniel, 2025), policy gaps continue to undermine malaria control efforts in the area, sustaining the disease burden.

Objectives of the Study

The objectives of the study are as follows:

1. To determine the socio-economic impacts of malaria treatment towards the achievement of quality healthcare in Ibesikpo Asutan Local Government Area of Akwa Ibom State, Nigeria.
2. To identify the socioeconomic and cultural factors that affects the treatment, control and prevention of malaria disease in Ibesikpo Asutan Local Government Area.
3. To assess the state of available healthcare facilities for the diagnosis, treatment, control and prevention of malaria transmission in Ibesikpo Asutan Local Government Area.
4. To suggest the possible ways of reducing the burden of malaria disease on victims and the enhancement of quality healthcare in the area.

Literature Review

Malaria remains a significant global health challenge, disproportionately affecting young children and pregnant women (Ben & Daniel, 2025). The disease is caused by the Plasmodium parasite and transmitted by the Anopheles gambiae mosquito (Martin, 2002). Recent estimates indicate that 597,000 people died from malaria in 2023, with 76% of these deaths occurring in children under five, predominantly in the African Region (World Health Organization [WHO], 2023). Over 3.3 billion people live in malaria-susceptible regions, with annual global mortality ranging from one to three million. Notably, around 90% of malaria's global burden is concentrated in Africa, Asia, and South America, threatening the achievement of quality health by 2030 (Ben & Daniel, 2025).

The Burden of Malaria Disease on Human Health

Malaria infections is mostly considered to have been caused by *Plasmodium falciparum;* the most dangerous of all the malaria parasites. It is widely spread in Africa and most difficult to control. Studies (Ben and Daniel, 2025) revealed that young children and pregnant women constitute the highest risks of population affected by malaria infection and is dominant in rural communities. However, repeated malaria infections contributes to the development of severe anaemia, which increases the risk of death as well as low birth weight; a consequence of malaria infection in pregnant women and their new born. It is a major risk factor for the first month of birth (Steketee, 2001). In addition, repeated malaria infections make young children more susceptible to other common childhood illnesses, such as diarrhea and respiratory infections, and thus contributes to increased mortality rate among children (Molineaux, 1997), pregnant woman and other patients.

Murply & Breman (2001), reporting on morbidity and long-term disability, noted that children who survive from malaria infection may suffer long term consequences of the infection including repeated episodes of fever and illness, low appetite and poor intelligent level. It affects social interaction and educational opportunities, hence poor growth and development. This is why children who recover from malaria infections may have brain imbalance (cerebral malaria) that causes learning impairments and disabilities due to brain damage, including epilepsy.

Malaria Burden and Social Status of Families

Research indicates that impoverished populations face a heightened risk of both contracting malaria and experiencing recurrent infections (Africa Malaria Report, 2003). Malaria significantly contributes to child mortality, particularly within poor rural households. A demographic surveillance study by Ben and Daniel (2023) in rural Akwa Ibom State revealed

elevated infant mortality rates attributable to malaria, with the burden disproportionately affecting lower socio-economic groups compared to wealthier families (Daniel & Peters, 2024). Roll Back Malaria (2002) further documented a high prevalence of malaria among disadvantaged populations, linking inadequate housing, limited access to insecticide-treated nets, and barriers to effective treatment as key factors exacerbating vulnerability.

The economic consequences of malaria also disproportionately burden poor households. Akazili (2002) found that while malaria care represented just 1% of income for affluent families in northern Ghana, it constituted 34% for the poor, creating substantial obstacles to accessing quality healthcare in alignment with the Sustainable Development Goals (SDGs). Daniel and Peters (2024) argue that poverty not only impedes malaria treatment and control but also restricts access to quality healthcare and education. Malaria reduces household productivity and hampers national development, highlighting the necessity for strong political will and leadership commitment if African governments are to achieve malaria reduction targets by 2030.

The Utilisation of Health Care Systems and Malaria Treatment

There are marked disparities in malaria treatment and use of healthcare services, influenced by cultural practices and socio-economic differences. Urban residents typically experience lower malaria rates but higher attendance at health facilities, whereas rural dwellers often resort to self-treatment with anti-malarial drugs or traditional remedies due to limited access, lower income, and educational constraints (Daniel et al., 2025). Socio-economic status and empowerment significantly shape individuals' utilisation of orthodox medical care, with costs acting as a major deterrent. Consequently, urban-rural divides persist in both malaria prevalence and healthcare-seeking behaviour, reflecting broader inequalities within the health system.

Access, cost, and illness severity are primary barriers to healthcare utilisation in rural areas, affecting prospects for quality health outcomes. Foster (1991) identified treatment costs as a key reason for non-use of health facilities, with timing of malaria outbreaks often coinciding with periods of minimal income from agriculture. During the rainy season, when malaria peaks, many households lack the cash reserves to afford treatment, prompting self-care and undermining efforts toward achieving universal health coverage and the Sustainable Development Goals (SDGs).

Long waiting times, medicine shortages, and overburdened health staff further discourage rural populations from seeking care at formal health facilities. UNICEF (2020) found that the majority of rural residents in western Kenya, and similarly in Nigeria, preferred self-treatment even when clinics were accessible and free, due to poor service quality and frequent drug shortages. The Africa Malaria Report (2003) also highlights misdiagnosis and inadequate laboratory capacity as challenges, leading to inefficient use of health resources. Addressing these systemic barriers is essential to improving malaria outcomes and achieving SDG 4 on quality healthcare provision (WHO, 2000).

Insecticide-Treated Nets (ITNs) and Malaria Control

Prior to the introduction of Insecticide Treated Nets (ITNs) in the mid-1980s, many countries already utilised nets for protection against biting insects and cultural reasons (Roll Back Malaria, 2002). Ben and Udom (2025) observed that insecticide treatment significantly enhances the protective efficacy of nets, serving as both a physical barrier and a chemical deterrent. ITNs provide substantial protection not only to individuals but also to households, making them among the most effective malaria prevention tools. Their widespread use is linked to notable reductions in infection rates and mortality, particularly among vulnerable groups such as children and pregnant women.

Perceptions about malaria causation and prevention differ across societies. Espino (1997) found scepticism regarding mosquitoes as malaria vectors in the Philippines, which led to doubts about

bed net efficacy. However, randomised controlled trials in Africa demonstrate that ITN usage can reduce under-five mortality by approximately 20% (Lengeler, 2001). In culturally receptive regions, such as Oron Local Government Area in Nigeria, government-led ITN campaigns have achieved significant reductions in malaria burden and improved child and maternal health outcomes (Ben & Udom, 2025), contributing to progress towards the Sustainable Development Goals (SDGs).

Despite their effectiveness, ITN adoption faces economic and cultural barriers. Some cultural beliefs discourage ITN use, associating nets with spiritual vulnerability during sleep (Daniel & Ben, 2025). Economically, the cost of nets remains a challenge, prompting initiatives like the Abuja Declaration, which advocates reducing or waiving taxes on malaria control commodities. The Africa Malaria Report (2003) notes low rates of net retreatment due to poverty, leading the World Health Organization to encourage the development of long-lasting insecticidal nets that require no retreatment, thus enhancing accessibility and sustained use in resource-limited settings.

Prompt and Effective Treatment of Fevers and Antimalarial Drugs

Prompt and effective treatment of fevers is seen as a critical element of malaria control in Africa, especially in Nigeria (WHO, 1998). It is noted that a strong health care system could provide a reliable diagnosis as the basis for optimal treatment of malaria. However, in most malaria endemic environments such as in Ibesikpo Asutan Local Government Area, access to curative and diagnostic services is limited as well as drugs purchased through the private and informal sector. Moreover, diagnosis is complicated by the lack of a specific clinical presentation, frequent occurrence of several diseases in areas of intense transmission are as well noted. WHO (1996) therefore recommends that as part of the strategy to Integrated the Management of Childhood Illnesses (IMCI), all under 5 with fever should be treated earlier with antimalarials (Nicoll, 2000).

In Nigeria, this prompt and effective treatment of malaria with antimalarial drugs possesses certain challenges, not only to the care provider but also to the victim and immediate family members. This is so because, majority of the population are poor, hence they lack access to essential drugs for treatment, including antimalarials (WHO, 2000)and also sandwich by other factors which include inadequate financing, poor healthcare delivery systems and services, weak drug regulation supervision and distance to the healthcare facility (Africa Malaria Report, 2003).

Theoretical Framework

The Culture-Bound Theory

The culture-bound theory of disease emerged alongside advances in Transcultural Psychiatry and Medical Anthropology, highlighting the role of socio-economic and cultural realities in shaping health perceptions and disease interpretation (Erinosho, 1998). According to this theory, definitions of health and normality are socio-culturally constructed, varying across communities. Consequently, malaria should be recognised as a significant health problem requiring appropriate health-seeking behaviour for its control and treatment. However, cultural perspectives differ: while some societies perceive malaria as a severe illness warranting urgent care, others consider it mild, with interpretation influenced by illness duration and outcome. For example, in Ibesikpo Asutan, childhood malaria is culturally classified as "oil" (aran), typically treated with herbal remedies, illustrating the theory's relevance to malaria diagnosis and management in rural communities.

The Health Belief Model (HBM)

The Health Belief Model (HBM), developed in the 1950s by social psychologists, explains individuals' reluctance to adopt preventive measures or seek early treatment (Rosenstock, 1974). It was later expanded to include responses to symptoms and adherence to medical regimens (Kirscht, 1974; Becker et al., 1974). The HBM posits that health behaviour is shaped by the value an individual places on health and their belief in the efficacy of specific actions (Maiman & Becker, 1974). Perceived susceptibility and severity, encompassing both medical and social consequences, influence motivation for health-seeking behaviour. Ultimately, individuals weigh perceived benefits and barriers, favouring actions believed to restore health and maintain well-being, provided interventions are seen as effective and feasible.

The Socio-Economic Deprivation Theory

The Socio-Economic Deprivation Theory further contextualises health behaviour, emphasising the impact of socio-economic status on health outcomes (Mera, 1997). This theory asserts that an individual's or family's social position critically determines nutritional standards and health practices. Socio-economic deprivation increases vulnerability to diseases such as malaria and malnutrition, as deprived households have reduced access to healthcare resources, resulting in higher morbidity and premature mortality. To address these disparities, the study advocates for improved healthcare distribution, such as mobile clinics, to reach underserved populations. Achieving universal healthcare by 2030 will require comprehensive health education, equitable access to services, and targeted poverty reduction strategies to mitigate the effects of socio-economic deprivation on health.

Methods and Materials

This study adopts a cross-sectional survey research design, which is advantageous as it enables the researcher to draw a representative sample of the broader population of interest. The research was conducted in Ibesikpo Asutan Local Government Area (LGA) of Akwa Ibom State, Nigeria, selected for its distinct rural characteristics relevant to the study's aims. Out of 43 villages in the LGA, ten communities, Ikot Obio Edim, Ikot Nkim, Nung Ete, Afaha Atai, Afaha Etok, Ikot Udo, Ikot Abasi Idem, Afaha Ikot Osom, Afaha Ikot Obio Nkan, and Afaha Udo Eyop, were purposively chosen based on their rural features. Predominantly an agrarian society facing limited and costly access to healthcare facilities, the area's environmental conditions foster persistent mosquito breeding, thus increasing malaria risk. From an adult population of 35,568 (UN, 2025), a purposive sample of 100 respondents (10 per village) was selected, aligning with the study's objectives and available resources.

Instruments and Methods of Data Collection

This study employed a qualitative research design, utilising in-depth interviews and Focus Group Discussions (FGDs) to elicit detailed, context-specific data from the target population. These methods were chosen for their capacity to facilitate open expression of participants' views and lived experiences relevant to the research objectives. FGDs, involving structured group interactions among individuals of similar socio-economic and cultural backgrounds, provided a forum for collective exploration of key issues (Dawson, Manderson, & Tallo, 1993). Each session was moderated by a trained facilitator, with the support of a note-taker and observer to ensure accurate documentation and effective process management. A total of four FGDs were conducted, each lasting 45–60 minutes, with participants stratified into young males (18–24 years), young females (18–24 years), adult males (25+ years), and adult females (25+ years). Thematic analysis was employed, integrating insights from both interviews and focus group discussions.

Thematic Analyses of Data

From the information gathered through the interview and FGD, the findings reveals that the respondents are aware that mosquito are the causes of malaria. During the discussion the respondents discussed as follows:-

"We are aware that malaria is caused by mosquito bite, which is habited by stagnant water: The respondents noted further that malaria cases are high in the rural and is said to be the major kind of sickness faced by the people".

Another respondents has it that

"Cases of malaria disease are high in rural areas because of the tropical nature of the area and stagnant water which breeds mosquito: we have the government drainage system from four lane in Uyo, the Swamp and thick bushes in the area. The existence of these features breeds malaria that feeds on man" in our community".

Another group of focus discussion has it that;

"We have cases of malaria diseases reported in our health centres, traditional birth houses and churches. The reports we have shows that the children and pregnant women are the most affected by the disease. Malaria is the disease that records the most cases of material and infant mortality in our community.

A study group at Nung Ete noted as follows;

We have a swamp in our community where we believed mosquito breeds. Also the abandon road project from Mbiabong Etoi to Ibesikpo also causes mosquito habitat in the area. This is against what is obtained in the urban area where the environment is kept clean and gutters removed with little or no stagnant water.

Also in Afaha Etok, the participants agreed that social status of families do affects the treatment patterns of malaria patients in the area. The respondents reported that families with poor economic backgrounds seek treatment at herbalist homes, and there are multiple cases of self-medication and treatment by poor families in the area. The respondents all agreed that their treatment seeking behaviour is influenced by their economic status, cultural beliefs and accessibility to medical facilities. This position was also confirmed in a FGD conducted at Ikot Obio Edim and Ikot Nkim; 'Malaria treatment in the Area is influenced by the cultural practices of the people'. According to the group discussion malaria is considered as 'aran', and demands the use of herbs in the treatment. We also need to seek herbal treatment, take enema with herbs before going for medical treatment. This is as a result of the efficacy of the herbs'.

In Ikot Abasi Idem Community, the findings revealed that poor access to medical facilities affects the rate of and utilization of orthodox medical facilities. According to the group discussion, "we don't have any medical centre in our community and so we make use of what we have in our community. That is the herbs available to pump, drink and pour on our body especially for the treatment of malaria among children. We need to go to Nung Oku to be able to utilize the medical facilities, and another problem we have is that of cost of services and the nature of the facilities'. The respondents at Ikot Obio Edim revealed that they have a hospital, but the facilities were not in their good condition and thus affected the process of medical test and diagnosis of sickness to ascertain what was actually wrong.

At Afaha Atai, Ikot Nkim and Ikot Obio Edim, findings from the focus group discussion aligned with the interview and it revealed that economic status of the people, cultural belief and the waiting hour at the hospitals were determinant to the treatment seeking behaviour of people in

the community. The findings also has it that malaria was the leading cost of infant mortality, followed by fever and pneumonia in the area.

However, on the control and spread of malaria, the participants in the focus group discussion and interview all agreed to the use of Insecticide Treated Nets. They noted that their previous experience with the use of ITNs was good as it reduces the burden of the sickness. The respondents however noted that they do not have or know where to get it, noting that this was the problem as the medical personnel at the Health Centres were selective in the distribution of the nets. This according to them affects the usage of the net by the poor and thus the rate of malaria disease in the community.

Conclusion

The socio-economic status of families profoundly affected malaria treatment among children in Ibesikpo Local Government Akwa Ibom State, Nigeria. Effective treatment reduces child mortality, health quality, school absenteeism and educational outcome, and household financial strain, and economic productivity. However, persistent challenges such as limited healthcare access, and facilities, drug stock outs, and low community awareness hinder the achievement of universal quality healthcare achievement. Strengthening primary healthcare systems like construction of health centres, clinics & pharmacies, etc and also addressing socioeconomic barriers is indispensable for sustainable malaria control and equitable health outcomes in Ibesikpo Asutan Local Government Area.

Recommendations

The study makes the following recommendations:

1. The State government should enforce Free Malaria Treatment Policy especially for children under-5 and pregnant women in rural communities at primary health centers and other government-subsidized programmes to help reduce malaria burden among its victims.
2. Community healthcare intervention programmes should be expanded to the reach of rural people. This could be achieved through the training of community health workers (CHWs) to conduct door-to-door medical services in the form of testing, distribution of insecticide-treated net (ITNs) in order to promote early care-seeking behaviour.
3. Government should establish health insurance schemes targeting low-income households to reduce their out-of-pocket expenses for malaria care. This will encourage their utilization of modern medical facilities.
4. The implementation of digital health tools (e.g., SMS alerts) to track malaria outbreaks and resource gaps in real-time. This effort it is believed will reduce the spread of malaria and outbreak of other disease especially in the rural on time community as it will avail the government.
5. Multi-Sectoral Collaboration is also encouraged. It recommends that government should partner with NGOs (e.g., WHO, UNICEF) and local schools for integrated awareness campaigns on prevention and treatment adherence.
6. Investment should be made towards. Upgrade primary health facilities with reliable electricity, diagnostics, and trained pediatric staff to support quality care at local communities. This will enhance prompt and quality healthcare services.

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