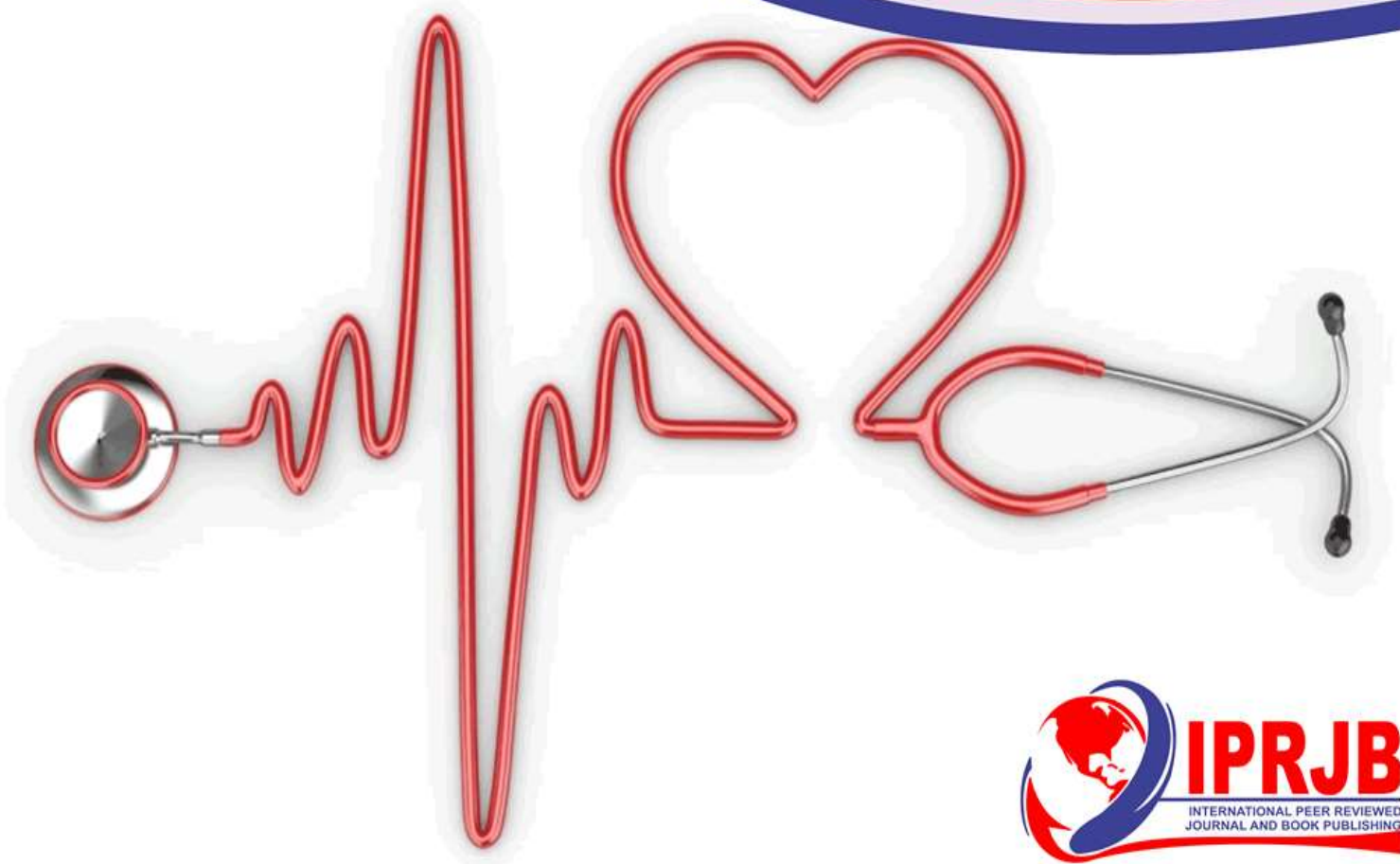


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Examining Barriers to the Utilization of Malaria Control and Prevention Services in the South West Region, Cameroon

Agbor Patrick Agbor, Professor Nsangha Dickson Shey and Professor Yenshu Emmanuel Vubu



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 Agbor Patrick Agbor¹,  Prof. Nsangha Dickson

Shey² and  Prof. Yenshu Emmanuel Vubu³
¹PhD Candidate, Department of Sociology, University of Buea

²Lecturer, Department of Public Health, University of Buea

³Lecturer, Department of Sociology, University of Buea

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Abstract

Purpose: The purpose of this study is to examine the barriers to the utilisation of malaria control and prevention services in the southwest region of Cameroon precisely in the Fako division. Cultural beliefs and practices significantly influence health-seeking behaviours in communities, even when faced with life-threatening diseases like malaria.

Methodology: Qualitative data were collected through structured interviews to understand the preferred treatment methods for malaria, the rationale behind the disease's continuous prevalence within the community, and the low usage of prevention methods prescribed in the hospitals. The data were analysed using a thematic technique, and presented following the themes that were elicited during the in-depth interviews and focus group discussions.

Findings: This study found that herbal medical practices are deeply rooted in the community's culture and need to be more quickly supplanted by modern medical practices. The study found that the resistance to malaria prevention methods was fueled by a lack of awareness about the importance of malaria prevention and control, contributing to the high malaria prevalence rate in the community. Also, the study found that the current healthcare system needs to be culturally sensitive, potentially leading to a lack of trust and confidence among community members. Additionally, financial constraints significantly impact the utilisation of preventive and treatment measures like mosquito nets, health centres, and community health workers.

Unique Contribution to Theory, Practice and Policy: These findings aligned with the Health Belief Theory (HBT), which explains that individuals' beliefs and attitudes towards malaria prevention in these communities constitute a significant barrier to malaria eradication. Community members perceive malaria as a severe disease and believe they are at risk of contracting it, leading to action due to susceptibility. However, traditional remedies are preferred due to perceived barriers to mosquito nets, such as cost, lack of access, and perceived ineffectiveness of the mosquitoes' nets. The study concluded that a culturally sensitive approach to malaria treatment and prevention, built on the community's beliefs and practices, can improve health outcomes. Therefore, organisations in charge of malaria prevention must adapt their approach to align better with the community's cultural values. The study further recommended that education and awareness campaigns about malaria prevention and control should be tailored to the community's cultural realities.

Keywords: *Malaria, Socio-cultural, Prevention, Control*

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INTRODUCTION

Malaria is a life-threatening disease which continues to pose a significant burden on communities worldwide. As such, the World Health Organization sets an ambitious new target of reducing the global malaria burden by 90% by 2030 (World Health Organization, 2015). Despite efforts to combat this debilitating illness, there remains an ongoing prevalence among community members (Park et al., 2023). While the possibility of eradicating malaria brings hope, this may not be feasible in certain endemic regions like Sub-Saharan Africa. Even though malaria-endemic countries have attained notable progress in malaria prevention and control, with some countries succeeding in eliminating it, malaria remains a burden, given the prevalence statistics. In terms of statistics, malaria continues to be a significant public health burden globally, with over 200 million cases in 2018 (Sarpong et al., *et al.* 2022); Antonio-Nkondo et al. *et al.*, 2019) and (Sherrard-Smith E, Hogan, 2020). 2020 there were 245 million malaria cases, which was 6% more than the previous year. Sadly, there were also 627,000 malaria deaths, a 12% increase. This significant rise put the goals of the Global Technical Strategy for Malaria 2016-2030 at risk.

In the past year, two distinct endeavours, namely the World Health Organization (WHO) Strategic Advisory Group for Malaria Eradication (SAGme) and the Lancet Commission on Malaria Eradication, were undertaken as comprehensive examinations of future possibilities. Their findings suggest that eradicating malaria is achievable, along with identifying crucial areas of focus (WHO, 2020). As such, the global fight against malaria has witnessed remarkable progress over the past decade, with a significant reduction in the overall burden of the disease (Bayode & Siegmund, 2022). However, this progress needs to be evenly distributed across different countries and regions (Lancet, 2022), like in some developing countries in Africa, which still seriously suffer from the burden of malaria.

Some areas have seen an uptick in the prevalence of this disease recently. This is particularly evident in sub-Saharan Africa, where many developing countries continue to bear a heavy burden of malaria (Leal Filho et al., 2023). Despite prevailing treatment and control measures, over 400,000 deaths are caused by malaria annually, primarily in sub-Saharan Africa (Fornace et al., 2021).

In Cameroon, for instance, there had been a significant expansion of vector control interventions in 2018, which decreased malaria's morbidity and mortality rates across the nation, yet the situation remains critical. The prevalence of the population reporting at least one malaria episode dropped from 41% in 2000 to 24% in 2017 (Antonio-Nkondjio et al., 2019), (Mieguim Ngninpogni et al., 2021). A study by (Solanke et al., 2023) in Nigeria indicated a rise in malaria cases, partly due to factors such as climate change, drug resistance, and inadequate healthcare services. A study in rural areas of Cameroon (Bamou et al., 2021) revealed that despite efforts to control malaria, the disease continues to be a significant public health challenge. The research found that factors such as limited access to healthcare facilities, inadequate healthcare infrastructure, and socio-economic disparities contribute to the persistence of malaria in these regions. The argument is not that malaria control programs have not yielded some success. The combination of limited healthcare resources, socio-economic disparities, and emerging issues such as drug resistance contributes to the persistent prevalence of malaria in these regions ((Diakit  et al., 2019); Oladosu et al., 2020). To address this issue effectively, targeted interventions and comprehensive strategies are needed to strengthen healthcare systems, improve access to quality care, and implement preventive measures tailored to the specific challenges faced by these countries.

Malaria transmission has continued to persist in the South West Region of Cameroon despite measures taken (Bamou et al., 2021) and, as such, posing a significant threat to individual and community health (Mieguim Ngninpogni et al., 2021). Despite the availability of proven interventions like insecticide-treated nets (ITNs) and artemisinin-based combination therapies (ACTs), many individuals, particularly within vulnerable populations in rural areas, need to utilize these services effectively (Ministry of Public Health, 2022). Different initiatives taken by the government and other international bodies with programs such as free Intermittent Preventive Treatment for pregnant women since 2005; free treatment of uncomplicated and severe malaria in children under five since February 2011 and 2014, respectively; the reduction of the cost of diagnosis and treatment of uncomplicated malaria in health facilities to less than 500 F CFA and free distribution of Long-Lasting Insecticide-Treated Nets (LLINs) to the entire population, and as well as seasonal Malaria Chemoprevention for children aged 03 to 59 months in the Far North and North regions during heavy rains, implemented since 2016. There is a high rate of malaria reported in the country. According to (Ndiaye et al., 2019), the country is characterized by poverty, limited access to healthcare, and inadequate sanitation infrastructures.

These factors contribute to high rates of malaria transmission and susceptibility, particularly among vulnerable populations such as children, pregnant women, and internally displaced persons (IDPs) (Ndiaye et al., 2019). However, a more severe issue is the underutilization of the above measures, and this has been attributed to various factors, including poverty, geographical inaccessibility, and weak health systems (World Health Organization, 2020). While studies have been conducted on these areas, such as, (Bamou et al., 2021), (Mieguim Ngninpogni et al., 2021), (Antonio-Nkondjio et al., 2019), this research found that little or no attention has been paid to the role of sociocultural influences on health-seeking behaviour remains understudied. Therefore, the current study was designed to examine the sociocultural barriers to the utilization of malaria control and prevention services in the southwest region of Cameroon.

To enhance this study, two critical theories were adopted: the Health Belief Model (HBM) and the Behavioural Change Theory. The HBM, which is a central sociological theory, was adopted. According to this theory, in a society, individual decisions to adhere to health preventive measures (for this study, adherence to malaria prevention and control measures instituted) are determined by their perceived susceptibility to a disease, the perceived severity of the consequences of the diseases if contacted, and the perceived benefits and barriers associated with available interventions (Ngang'a et al., 2019). From this model, cultural beliefs, norms and practices within each community can shape health perception and behaviour.

The research argues that while malaria has been drastically reduced in some parts of the world, the continuous persistence in Cameroon, despite the use of the same strategies, could be accounted for by the sociocultural factors of the different regions. For example, diverse cultural beliefs and practices surrounding illness and treatment coexist in the South West Region. Traditional medicine remains widely utilized, and some communities may hold negative perceptions of Western biomedicine or harbour misconceptions about malaria prevention methods (Neba et al., 2016). Even the distribution of malaria-prevention mosquito nets is refuted by some who claim it is a political move (Chatterjee, 2013). Understanding how these sociocultural factors interact and influence individuals' perceptions within the framework of the HBM is crucial for designing effective interventions.

According to the World Health Organization (WHO), even under the most optimistic scenario, with current tools and approaches fully implemented everywhere; their analyses have yet to show that malaria eradication can be achieved within the next several decades (WHO, 2020). This accentuates a need for a new approach that is more comprehensive to malaria prevention and control that addresses not only the biological determinants of the disease but also the underlying social determinants (Bhatt et al., 2014; WHO, 2020). To effectively address this issue, it is imperative to gain insights into the preferred methods of malaria treatment, identify the challenges faced, and explore the underlying rationale behind the persistent prevalence of malaria within these communities. By understanding these factors, policymakers, healthcare providers, and researchers can develop targeted interventions and strategies that address community perspectives, overcome treatment challenges, and ultimately contribute to malaria eradication.

Objectives

1. Examine the preference methods of malaria treatment for the community members
2. Examine the challenges faced in malaria treatment among community members
3. Propose the rationale for the continuous prevalence of malaria among the community members.

Despite the numerous studies on malaria, one thing remains critical to be addressed. What accounts for the continuous high prevalence of malaria in Sub-Saharan countries like Cameroon despite the effects from different organizations at local and global levels? Are there sociocultural barriers to the Utilization of Malaria Control and Prevention Services?

Problem Statement

People hold a variety of beliefs about the cause and transmission of malaria that vary according to cultural, educational, and economic factors, and have direct consequences for both preventive and treatment-seeking behavior as well as for activities to control malaria. Beliefs that differ from the scientific explanation about the cause and transmission of malaria may lead to inaction, a delay in seeking appropriate treatment, or ineffective action, all with serious consequences that may inhibit effective preventive measures (Espino et al, 2007). Thus, it is important to understand the local beliefs and the local strategies employed by the population, towards malaria control and prevention, because they are neither known nor uniform across various communities affected by malaria in the Fako division of the South West Region of Cameroon

LITERATURE REVIEW

A conceptual framework for social factors that intervene in the control and prevention of Malaria has been adapted from an integrated community-based approach to prevent neglected tropical diseases and infectious diseases of poverty, and used to analyze factors that influence community participation in malaria prevention in Cameroon. It brings together socio-cultural context, education, health promotion, community-based interventions to prevent malaria in low resource settings, put together interactively with individual perception, health care system and governance structures. Before getting to this, it will be important first to review the concept of vector -host -parasite.

The ecological theory and the health belief theory were used for analysis in this work.

The ecological theory recognizes the fact that the target population may already have established customs related to health and environmental issues. This implies that each culture

has developed mechanisms of coping with disease and illness. Therefore, malaria control programmes need to be informed of local health beliefs in order to understand how these influences prevention and control. The ecological theory is thus in line with the preventive malaria programmes which focuses on activities of removing or changing aspects of the environment which are harmful to health. Meanwhile according to the health belief theory, the choice of action taken to prevent oneself from a disease depends not only on whether the person knows the cause and seriousness of the disease, but also the perceived probability that the action will lead to desirable or ameliorative result, and the unpleasantness or cost of taking or not taking such action.

Most research on malaria prevention in Cameroon focus on biomedicine with very few research on social determinants in the prevention of malaria. Some of this research lack a scope, a methodology, and guiding theories while others provide a broad perspective on community health care in Cameroon. This research comes to begin closing the gap with scientific contributions on the social dimension in the prevention and control of malaria.

MATERIALS AND METHODS

Research Approach

The study utilized a qualitative research approach to examine the preferred treatment methods for malaria within the community while also exploring the underlying rationale for the continuous prevalence of the disease. Through in-depth interviews with key informants who constitute community members, the study aimed to gain insights into the community's preferred methods of treating malaria and understand the factors influencing their choices. By integrating the examination of preference treatment methods and the exploration of the rationale for continuous prevalence, this research provided a holistic understanding of the complex dynamics surrounding malaria within the community. The findings generated from this study can potentially inform the development of more effective interventions and strategies to tackle the challenges associated with malaria control and prevention.

Sampling Technique

This study utilized a combination of probability and non-probability sampling techniques to gather data on community members' experiences with malaria. The probability sampling technique employed was stratified random sampling, which ensured that each element in the population had an equal and independent chance of being selected. This approach reduced bias and enhanced the representativeness of the sample. Non-probability sampling, precisely the purposive sampling technique, was also used to gather information from health personnel who possessed valuable insights into community preferences, challenges, and the rationale for the ongoing prevalence of malaria. This approach ensured that the study captured comprehensive perspectives from healthcare professionals. By employing probability and non-probability sampling techniques, this study aimed to gather robust and diverse data, enhancing the reliability and validity of the findings.

Data Collection Tools

This study employed structured interview guides to explore the preferred treatment methods for malaria and the underlying rationale for the continuous prevalence of the disease within the community. In-depth interviews were conducted with individuals who had experience with malaria. This approach facilitated a comprehensive understanding of the community's preferred treatment methods for malaria and the factors contributing to the ongoing prevalence

of the disease. By integrating these aspects, the study aimed to shed light on the multifaceted nature of malaria prevention and control within the community.

Data Management and Analysis

This study utilized a thematic analysis approach for effective data management and analysis. Interview data were recorded, transcribed, and securely stored. The transcripts were carefully reviewed and coded to identify recurring themes related to preference treatment methods, challenges in malaria treatment, and the rationale for continuous malaria prevalence. Inter-coder reliability checks were conducted to ensure consistency in the coding process. Major themes and sub-themes were identified, and patterns within the data were explored. Analytical memos and field notes were maintained to document reflections and insights. The findings were synthesized, conclusions drawn based on the identified themes, and data interpreted about existing literature. This method facilitated a systematic and rigorous exploration of the research objectives, ensuring the reliability and validity of the findings.

RESULTS

From the findings, the study uncovered the preferred malaria control methods in the community. The findings revealed the following:

Traditional Healing Methods

From the interviews conducted, this study uncovered that one of the reasons for the low usage of malaria prevention and control methods by communities in the Fako Division, particularly Buea, was the desire to use traditional healing methods. The results showed that the preference for traditional healing methods is a significant reason for these communities' low utilization of malaria control and prevention services. Participants mentioned using herbal remedies as an alternative to conventional malaria interventions. For example, some participants mentioned boiling certain herbs with limes or lemon and giving the mixture to their children to treat malaria symptoms. Others mentioned using a combination of "fever grass", "masepo", and limes to prepare their home remedy. As one participant mentioned, *"I use herbs sometimes. My grandmother taught me some herbs I can boil and put limes or lemon then give to the child, and she drinks and becomes well"*.

Another said, *"My neighbour uses fever grass, masepo, and limes. She boils them together and gives them to her child, who drinks and becomes well."* These findings highlight the prominent role of traditional healing practices in the community's healthcare choices, which may contribute to the low usage of conventional malaria interventions.

Rationale for the Low Usage of Malaria Control and Prevention

Preference for Preventive Practices

A perspective shared in the interviews that accounts for their low use of these measures is the belief that *"prevention is better than cure. We make fever grass tea always and drink."* Participants mentioned regularly preparing and consuming fever grass tea as a preventive measure against malaria. This indicates a proactive approach to healthcare, where community members prioritize taking preventive actions rather than relying solely on curative measures. The inclination towards using fever grass tea as a preventive measure aligns with taking proactive steps to minimize the risk of contracting malaria. Fever grass, also known as lemongrass, has specific properties that can potentially repel mosquitoes, which are the carriers of malaria. This accounts for one of the reasons for the low usage of malaria-preventive mosquito bed nets.

Lack of Confidence in Hospital Treatment

Another viewpoint that emerged from the findings was a lack of confidence in-hospital treatment and the decision to resort to traditional herbs as a prime treatment for malaria due to experiences of not receiving adequate treatment at hospitals. The participants in Tole believed that if hospitals fail to provide effective treatment, traditional herbs can be an alternative approach; as stated by one participant, *"We treat malaria by taking traditional herbs because some people go to the hospital and do not get treatment. However, if the hospital does not work, take traditional herbs; if traditional herbs do not work, go to the hospital."* Also, another participant said, *"Some of our sisters went to the hospital and did not get treatment, so most of them are using herbs, prepare it and drink it"*. In this light, the findings point to the fact that when households use hospital drugs and malaria resurfaces due to mosquito bites, they think the treatments from hospitals is not effective. This perspective reflects a lack of confidence in the healthcare system and a willingness to explore other options when conventional medical interventions do not yield satisfactory results.

The likely causes of failure from hospital treatment could have led to a loss of trust in the healthcare system, which could have encouraged community members to seek alternative forms of treatment, such as traditional herbs. It also reinforced the belief that traditional herbs are more effective in treating malaria, as community members may have perceived that the hospital could not provide effective treatment.

Belief Systems

The study equally revealed that one of the rationales for the low usage of malaria control and prevention methods like nets and sprays is people's beliefs and perspectives regarding the treatment of malaria, particularly concerning spiritual intervention and the use of traditional remedies. From the responses, one participant mentioned that God can treat malaria, indicating a belief in the power of divine intervention for healing. The subsequent conversation revealed that seeking medical treatment should be the first step before turning to prayers. This viewpoint reflects a practical approach to healing, recognizing the need for medical intervention to address the physical aspects of the disease. The emphasis on taking treatment before seeking spiritual intervention suggests a belief in the complementary nature of medical and spiritual care. The response stated thus, *"As for me, I think one should take treatment first before going for prayers. This means that you must start by helping yourself first. The pastor can pray only for the spiritual attack, but malaria is something that breaks you, so it's either you go to the hospital or take traditional herbs. And you can't just take it for a short period, like one week, and expect to get cured; you should consistently take it."*

Limited Availability of Community Health Workers

The study unveiled that the limited availability of community health workers accounts for the low utilization of health centres and community health workers in some of these communities. For instance, a participant said, *"There is a man called Mr Oumarou, he usually tells us about malaria. Sometimes he is in the hospital or is not around. But when he is around, we meet him to consult, and he gives us drugs"*. This means that sometimes, these people are restricted from accessing these community health workers because they are unavailable at the time of need. There is over-dependence on a single individual in this community who is overcharged, and the reliance on such for malaria-related advice or treatment may make it challenging for the population.

Financial Hardship

Another contributing factor to the low utilization of malaria prevention resources was identified as financial constraints. Limited financial resources act as a significant barrier to accessing healthcare services. One participant mentioned that *"sometimes they do not have enough money to go to the hospital"*; individuals and households often lack sufficient funds to afford or prioritize necessary resources for malaria prevention, such as mosquito nets, insecticide sprays, or antimalarial medications. This finding underscores the need to consider the economic context and financial challenges the community faces when devising strategies to enhance the utilization of malaria prevention resources.

Severity/Degree of the Malaria

Further responses also shed light on the decision-making process regarding using traditional herbs versus seeking medical intervention for malaria treatment. The participants suggest that traditional herbs can be used when experiencing symptoms such as joint pains or body weakness. However, if symptoms progress to include changes in eye colour and severe loss of appetite, they recommend seeking medical care at a hospital. This response highlights the perceived distinction between early-stage symptoms, where traditional herbs are considered appropriate by the respondents and more advanced symptoms that warrant professional medical attention. It implies that the participant's decision-making is influenced by the severity and specific manifestations of the symptoms associated with malaria.

Reliance on Home-Based Treatment

The results found that the availability of home-based medical treatment and pharmacy services engineers some of these participants' reactions to instances of malaria. For instance, one of these immediate actions when a child is sick or suspected of malaria is to take the child to the roadside vendor; as one of the participants mentioned, *"When my child is sick, I take the child to the "pharmacy", and they give me medicine"*. This demonstrates a proactive approach to seeking medical treatment; visiting the pharmacy aims to obtain appropriate antimalarial medicine for the child. This suggests that there is a recognition of the importance of accessing medication from a reliable source rather than relying solely on home remedies or over-the-counter drugs.

This notwithstanding, the study found that few participants still prefer the conventional approach to malaria treatment within the community. According to some participants in Muea, *"There is a woman who acts as a health worker and visits households to check if anyone is sick. If a child is sick with suspected malaria, they explain the situation to the woman, who then conducts a test and provides medication if malaria is confirmed"*. This approach indicates a reliance on community-based care rather than seeking formal medical treatment at hospitals or clinics. From these results, it can be implied that the reliance/preference for a community-based health worker suggests easy access to health services whereby the patient is visited at home by community health personnel rather than going to the health facility where the patient may be obliged to stand in a queue waiting to be served.

Such that there are interactions and collaborations between the community and health facilities. For instance, a case was cited in the Tole community where a health facility visited the community and requested the residents to register their names for malaria treatment at the hospital. After receiving treatment, the community members were asked to provide feedback on the effectiveness of the treatment. This suggests that there have been some efforts to collaborate with health facilities in treating malaria within the community. However,

statements like this: *"They came here one time and told us to register our names so that we can be treated in the hospital. Afterwards we give feedback if the treatment worked, but many were not able to catch up"* from a participant revealed a potential challenge in implementing this approach. Many community members needed help to keep up with the process, indicating difficulty in following through with the feedback component of the treatment.

Discussion

The findings identified significant factors contributing to these communities' low utilisation of malaria control and prevention services. Residents in these communities tend to favour traditional herbal remedies over conventional malaria interventions, such as insecticide-treated bed nets, indoor residual spraying, and antimalarial drugs. This preference for traditional practices is a significant deterrent to adopting proven malaria control measures. The reliance on herbal remedies is rooted in these communities' cultural and traditional beliefs. The use of specific herbs, such as fever grass, masepo, kenkeliba, black jar, moringa, dogo yaro, neem stick, guava leaves, pawpaw leaves, and limes, in the preparation of herbal remedies indicates a specific traditional knowledge and belief in the medicinal properties of these plants. This usage may be deeply ingrained in the local culture, and many residents believe that these remedies are more effective and safer than conventional methods. Also, there may be a need for more awareness and understanding of the importance of malaria prevention and control, further contributing to the low usage of conventional interventions. The findings of this study align with previous literature regarding the preference for traditional herbal remedies as an alternative to conventional malaria interventions within specific communities (Ocan et al., 2023). In this study, the authors argued that some communities have now "resorted to the use of natural plant products (herbs) that are assumed or claimed to have antimalarial efficacy". This is attributed to the challenges facing the use of Artemisinin-based combination treatments (ACTs), herbal products, and the development of alternative conventional antimalarial medicines, which are vital for malaria control and eradication efforts globally. This finding from community members in this study indicated a reliance on traditional knowledge and beliefs in the efficacy of herbal remedies for treating malaria, which is consistent with the persistence of traditional medicine mentioned in the literature.

The study equally found that the community members strongly believe in implementing preventive measures, as the adage "prevention is better than cure". They actively engage in preventive practices to combat malaria. Regularly preparing and consuming fever grass tea as a preventive measure aligns with this proactive approach to healthcare. Community members believe fever grass possesses properties that repel mosquitoes, the carriers of malaria. By consuming the tea, community members perceive themselves as actively protecting against mosquito bites and reducing their risk of contracting the disease. The use of prevention might indicate that they perceive malaria as a threat to their lives and desire to prevent themselves from the consequences. This is further supported by (Okeke and Okafor, 2008), where disease is perceived as a threat. According to (Shaw, 1999), individuals' engagement in a particular kind of health, illness, or sick role behaviour depends on the perceived threat amount and the behaviour's attractiveness or value (Lancet, 2022).

The study equally unveils those beliefs and perspectives regarding the treatment of malaria, including spiritual intervention, play a role in the low usage of conventional malaria control and prevention methods such as nets and sprays. Some believe that God can treat malaria, indicating a reliance on divine intervention for healing. However, there was a subsequent emphasis on seeking medical treatment as the first step before turning to prayers. This

viewpoint reflects a practical approach to healing, acknowledging the need for medical intervention to address the physical aspects of the disease. The participant acknowledges that while prayers may address spiritual attacks, malaria is a physical ailment that requires medical attention, either through hospital treatment or the use of traditional herbs. The mention of consistently taking traditional herbs over a prolonged period indicates a belief in the necessity of sustained treatment for malaria.

Despite the community's preference for traditional healing methods and proactive measures, the malaria prevalence rate remains high. These approaches may not be effective in preventing or treating malaria. Possible reasons for this include the lack of scientific evidence supporting traditional healing methods and inconsistent or incorrect use of proactive measures. The study also found a need for more awareness about the importance of malaria prevention and control. Cultural and traditional beliefs significantly shape health-seeking behaviours, highlighting the need for culturally sensitive interventions. A comprehensive approach is necessary, combining evidence-based strategies with interventions that address traditional beliefs and promote awareness of effective malaria prevention and treatment methods.

This perspective highlights the importance of understanding the community's beliefs and preferences when designing malaria control and prevention interventions. A holistic approach that considers medical and spiritual aspects more effectively addresses the community's needs and promotes healthcare-seeking behaviour. By incorporating culturally sensitive approaches and engaging with community leaders and spiritual figures, bridging the gap between conventional healthcare practices and traditional beliefs is possible, fostering a better understanding of the complementary roles of medical and spiritual care in managing malaria. As stated almost two decades ago by (Tarimo et al., 2000), issues remain today as the number a significant proportion of the participants considered using traditional medicine was reported to be preferred (Makemba et al., 1996; Mwenesi et al., 1995; Winch et al., 1996).

The study discloses a lack of confidence in hospitals among the community members, leading them to resort to traditional herbs as a first-line treatment for malaria. The participants expressed experiences of not receiving adequate treatment at hospitals, influencing their decision to explore alternative approaches. The community members believe that traditional herbs can be a viable alternative if hospitals fail to provide effective treatment. This perspective suggests a hierarchical approach to treatment options, where individuals initially attempt to seek healthcare services at hospitals. However, if they perceive the treatment as ineffective or unsatisfactory, they turn to traditional herbs as an alternative. As stated in the ecological theory, the ecological approach to medical care considers the health status of human beings as a function of the genetic human being and the total effects of the environment. (Ryvicker, 2018) argued that the complex interaction between ecological factors may inhibit or facilitate access to and delivery of health care to individuals and communities. These factors may be described as social, psychological, economic, informational, administrative, and organisational.

The study further reveals that the limited availability of community health workers contributes to the utilisation on of health centres and community health services in specific communities. In some cases, a single individual is reliant on for malaria-related advice and treatment, which can lead to challenges for the community. This may result in over-dependence, potentially leading to an increased workload for him and limited access to his services for the community members. This over-reliance also raises concerns about the sustainability and scalability of the healthcare services provided. To address this issue, it is necessary to strengthen the capacity and availability of community health workers in these communities. This can be achieved

through training and recruiting additional health workers to ensure a more consistent presence of healthcare providers. It is also important to establish systems for effective coordination and communication between healthcare providers and the community, ensuring that the availability of services is known and accessible to community members.

Conclusion and Implication

Cultural beliefs and practices play a significant role in health-seeking behaviours in these communities, even in the face of a life-threatening disease like malaria. These practices are deeply rooted in the community's culture and are not easily replaceable by modern medicine. Also, it is possibly fueled by a need for more awareness about the importance of malaria prevention and control to the high malaria prevalence rate in the community. The hospital may only sometimes be culturally sensitive, which could lead to a lack of trust and confidence in the healthcare system among community members. Besides, community members' financial constraints significantly impact the utilisation of preventive and treatment measures like mosquito nets, health centres, and community health workers. In essence, the Health Belief Theory (HBT) ideally explains the individuals' beliefs and attitudes towards malaria prevention in these communities, considering their perception of the benefits and barriers to taking action. Community members perceive malaria as a severe disease and believe that they are at risk of contracting the disease; as such, individuals take action due to their susceptibility. Preference is given to traditional remedies due to perceived barriers to using mosquitoes, such as cost, lack of access, and perceived ineffectiveness.

A culturally sensitive approach to malaria treatment and prevention, which considers the community's beliefs and practices, may effectively improve health outcomes in the study area. Malaria control efforts in these communities may only be practical if cultural beliefs and practices are considered; healthcare providers may need to adapt their approach to better align with the community's cultural values. Education and awareness campaigns about malaria prevention and control may need to be tailored to the community's specific cultural context while encouraging modern medicine to be well received in these communities.

Recommendations

Integrate traditional healing practices into malaria control efforts in these communities. Increase awareness about the importance of malaria prevention and control through culturally sensitive education campaigns. This could involve working with community leaders, religious leaders, and traditional healers to promote malaria prevention and control messages.

Support community-based malaria control initiatives. This could involve empowering community members to take ownership of malaria control efforts and providing them with the necessary resources and support to prevent and treat malaria effectively.

Encourage interdisciplinary collaboration between healthcare providers, traditional healers, and community leaders to develop culturally appropriate malaria control strategies. This could involve developing a comprehensive malaria control plan considering the community's cultural beliefs and practices.

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