

# Malaria in the United Republic of Tanzania: cultural considerations and health-seeking behaviour

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Malaria is one of the biggest health problems in sub-Saharan Africa. Large amounts of resources have been invested to control and treat it. Few studies have recognized that local explanations for the symptoms of malaria may lead to the attribution of different causes for the disease and thus to the seeking of different treatments. This article illustrates the local nosology of Bondei society in the north-eastern part of the United Republic of Tanzania and shows how sociocultural context affects health-seeking behaviour. It shows how in this context therapy is best viewed as a process in which beliefs and actions are continuously debated and evaluated throughout the course of treatment.

**Keywords:** malaria, therapy; malaria, ethnology; medicine, traditional; health behavior, ethnology; cultural characteristics; social environment.

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*Voir page 1356 le résumé en français. En la página 1356 figura un resumen en español.*

## Introduction

The treatment and control of malaria poses a serious challenge in sub-Saharan Africa. Each year, about 300–500 million attacks occur, from which 1.5–2.7 million people die (1). Most of the deaths occur among children under five years old, and pregnant women (2, 3). The epidemiological, medicinal and entomological aspects of malaria are well documented, as are its consequences for the social and economic outlook of countries in which it is endemic (4–7). Strategies for combating malaria now focus on reducing mortality and morbidity through prompt diagnosis and treatment (8, 9). Eradication attempts in earlier days have largely failed, although some local successes have been achieved (10). Increasing resistance to malarials has been reported, and this has led to a growing concern that in future no effective remedies will be available.

The strategy adopted in the 1990s emphasized early diagnosis and prompt and efficient treatment. It was to be supplemented by initiatives aimed at prevention, the control of epidemics, and continued observation of each country's malaria situation (11). Whether this strategy will work remains to be seen. Underlying it is the idea that malaria is a well-defined disease, in which *Plasmodium* parasites are transmitted by female *Anopheles* mosquitoes (12). This consistent definition is challenged when the perspective of the

Bondei people who live in the north-eastern part of the United Republic of Tanzania is considered.

As we will attempt to show, there are cultural explanations of illness in this part of the country that overlap with the symptoms of malaria. We will also look at how these explanations, combined with the social structure of Bondei society, influence health-seeking behaviour, how treatment is continuously debated and evaluated by those involved with the patient, and how their behaviour is anchored in their own culturally defined knowledge and interpretation of malaria. This work can be seen as an extension of WHO's strategy because understanding the cultural contexts that affect how different groups perceive malaria is a prerequisite for implementing strategies for early diagnosis and prompt and efficient treatment. McCombie (13) has noted that some literature on the cultural context of malaria and treatment-seeking behaviour exists (4, 14–18), but there is little clarity in this area because researchers assume that the disease and its treatment are well defined and beyond discussion (19).

## Setting and methods

The village where the research took place is 40 miles inland from the city of Tanga, in the United Republic of Tanzania, and 5 miles outside the district capital of Muheza, where the only hospital in the district is located. The village has a population of about 1300 with a pluralistic health care system comprising the hospital and two pharmacies in Muheza, a semi-public clinic at a nearby sisal estate, three shops in the village that sell some medicine, 13 traditional healers, and numerous shops in Muheza that sell both local medicine and Western pharmaceuticals. These

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services were available within an eight mile radius of the village.

The fieldwork was conducted in Swahili and without an interpreter, as one of the authors (*L.O.*) is fluent in this language, which is spoken by all residents. Methods used to study health-seeking behaviour were participant observation, informal group discussions, and ethnographic interviews. People spoke freely during informal interviews, narrating everyday incidents and decisions. The researcher (*L.O.*) participated in social events, such as funerals, and visited the waiting room at the hospital, the *waganga* (local traditional healers), the teahouse, the fields and other gathering places, in order to be in situations where people talked about sickness and its meaning. These methods also enabled the researcher to follow specific sickness episodes from the time they were first seen to pose a problem through to the discussions of causes and preferred treatment and on to the actual actions taken. In this way detailed accounts of sickness episodes and the chosen methods of treatment were established.

## Social and ecological environment

The Bondei live in the north-eastern part of the country between the Usambara mountains and the scrubland that extends 30 miles inland from the coast. There are two rainy seasons: the light rains in October and November and the heavy rains which last from March till May. Malaria transmission is holoendemic. The Bondei economy is based on subsistence farming with intensive farming of additional cash crops of cassava, maize, pineapples, and coconuts. The Bondei are dependent on the success of the cash crops to provide income to meet their needs for items such as clothes, kitchen utensils, farming tools, and medicine.

In principle, land is owned collectively by the village. In reality, it is owned on the basis of seniority, status, gender and inheritance. Women and young men have rights only to use the land; the de facto ownership control of the land rests in the hands of the patriarchs, who pass it on to the next generation through their sons. If a woman is divorced she loses her rights to her children.

Most people live in mud-walled houses with roofs thatched with palm leaves. Houses are constructed with a space between the walls and the roof in order to allow air to circulate. Bednets are uncommon and were only used by eight households during the study. Of these, only two used impregnated nets. This factor combined with the presence of infected mosquitoes makes malaria a frequent occurrence in every household (16, 17, 20). Cultural traditions related to death increase exposure to malaria, as they prescribe a mourning period of 40 days during which close relatives and friends are expected to sleep in the house of the deceased to show their respect. During this time everyone sleeps

on the ground, men outside and women inside. Children under about six years old are allowed to choose where to sleep.

Patriarchs are ultimately responsible for providing for the extended household, and often eat apart from the rest of the family. Wives and elder children keep them informed about the well-being of family members. The personality of the patriarch is vitally important to the entire extended household as almost every financial transaction, including those involved in health care, depends on his approval.

## Malaria and the hospital

The Bondei explanation of malaria seems at first glance to be identical to the accepted biomedical one. Many younger or middle-aged people say that "malaria" is caused by the transmission of a "parasite" that they call *Plasmodium*, and is transmitted through the bites of "mosquitoes", using these actual words. The risk of catching malaria is seen as greater during the rainy periods, and people assume that the most efficient treatment for malaria comes from "Western medicine". This is called "hospital medicine" or "white man's medicine" and is seen as being in opposition to "traditional medicine" (*dawa ya kienyeji*). In local terminology, a frequently used distinction is between hospital diseases and local diseases, malaria being placed exclusively with the hospital diseases.

Differentiating between the two categories and their corresponding treatments seems to be straightforward. People see Western medicine as the supreme remedy for malaria because it is a hospital disease. Local illnesses, on the other hand, ideally have to be treated by local healers or local medicine. But local illnesses include occurrences that have symptoms that overlap with those of malaria, making the treatment strategy more complex. The challenge is then to separate malaria and its treatment from local illnesses and their treatments in the course of therapy.

## Malaria and its local counterparts

In the local classification of diseases there are three sicknesses that must be considered because their relevance to malaria is unquestionable: *degedege*, *mchango*, and *kibwengo*. *Degedege*, a spirit of the bird, is the most serious and attacks small children who have symptoms including convulsions, high fever, diarrhoea, and shivers. The cause of *degedege* is bad luck, and it is not attributed to the activities of any person (such as a sorcerer). Its treatment is exclusively local; giving an injection to a child with *degedege* is considered to be potentially fatal because the shock caused by the penetration of a needle can lead to a sudden rise in the child's temperature (18).

*Mchango*, literally meaning "worm", has three subdivisions. Two refer to intestinal worm and tapeworm, the third to children's fever (*boma za*

*watoto*). This last form of *mchango* is also caused by bad luck, but it occurs only in periods of cold weather, which in this area is during the rainy seasons. Initially the symptoms are high temperature (fever), cold hands and feet, shivering, and general body weakness which is eventually followed by convulsions and difficulty in breathing. If untreated, this kind of *mchango* can develop into epilepsy. Its treatment can be local or hospital-based.

*Kibwengo* are spirits of the devil that one may be unfortunate enough to meet in the hot sun near big stones and large trees. When a *kibwengo* is encountered one will feel something penetrate the body without being able to specify the event. Symptoms are headache and stomach-ache followed by fever and, possibly, constipation. Treatment with Western medicine may worsen the condition, and the optimal treatment is believed to be local.

Bondei nosology is much more complex than this, but these three categories of illness help to illustrate the existence of a system in which malaria is seen as part of a scheme of things that goes beyond the usual biomedical explanation. It should also be emphasized that among the Bondei, views on sicknesses and their treatments are neither static nor unquestioned. Every aspect of a change in signs and symptoms is eagerly and continuously debated by those managing the therapy, in order to decide about the next intervention.

## Health-seeking behaviour

In discussing health-seeking behaviour it is assumed that something — an unusual sign or any other irregularity — is being interpreted as a sickness or a threat to the well-being of a person. Mothers and other cohabiting relatives are often the first to observe a possible illness in small children who — together with pregnant women, who sometimes lose their immunity to malaria during pregnancy (21) — are most vulnerable to falling ill with malaria or its local counterparts. Loss of appetite, reluctance to play, and dizziness are the most common signs mentioned and acted upon. The parents or other adults seeing these signs have to decide whether the case is trivial and, if it is not, whether the proper treatment is local or Western medicine. The decision as to whether a child is treated instantly is often in the hands of its parents. Because of the patriarchal orientation of the Bondei, the father has the ultimate power to decide, especially if the treatment involves expenditures, which almost every treatment does. Example 1 illustrates this.

This case shows how health-seeking behaviour is best seen as a process during which the beliefs and actions of the people in the immediate social environment of the sick person initiate treatment and subsequently evaluate the perceived outcome of the therapeutic actions. This group of people is sometimes called the therapy management group (22), which is an appropriate label for the group of

### Example 1. Eventual success with Western medicine

Jessy is a girl aged 5 who lives with her parents close to the hospital in Muheza. Her father is a government employee, and her mother stays at home with their three children. One morning Jessy had a fever; her mother treated it with aspirin. During the afternoon Jessy's temperature rose again and the mother consulted her sister. The women decided to postpone further treatment until Jessy's father returned. Upon his return, Jessy's father judged that the child had malaria. He went into town and bought one chloroquine tablet which he administered to the child. The fever dropped temporarily, but it returned the next day and Jessy was taken to hospital. At the hospital a blood sample was taken and examined but there was no sign of malaria parasites. Paracetamol was prescribed to bring the temperature down. Two days later Jessy still had a high temperature, she was not playing, and was apathetic. Her father decided to consult a local healer. Jessy was given some herbal medicine but her condition remained unchanged. The unsuccessful consultation with the traditional healer confirmed her father's belief that Jessy had malaria. After a few days of home treatment with Fansidar and aspirin, obtained from a shop in town, the child recovered.

people around the sick person that play a part in determining the course the therapy will take. On the other hand it would be misleading to conclude that everybody has the same influence on the course of treatment. The norm is that the well-being of the child is the joint responsibility of the parents: the women as carers and the men as providers and decision-makers (for example, the father is the primary decision-maker in Jessy's case).

In addition to examining the way in which social organization influences health-seeking behaviour, we must also examine the process and how it relates to sickness. In this example, the behaviour is not just a system of labelling and treatment. Instead it is a stepped process in which the sequence continuously moves from explanation to therapy and on to evaluation, and, if healing fails, the process is repeated so that new explanations are developed and are then followed by alternative forms of therapy and then re-evaluation. Mogensén has discussed the interpretational side of the process and stated that a diagnosis is not just the selection of a specific disease term (23). It is the selection of a narrative connected to a disease term which makes sense in the present situation for the patient and the therapy management group. There is an underlying rationale in viewing sicknesses as progressive. Treatment may change as the illness proceeds, but it does not end until every alternative has been sought. If one treatment is unsuccessful the therapy is altered.

Example 2 focuses on the dynamics of the process and the way healing is interpreted during a specific sickness episode.

The twins' case was the opposite of Jessy's. Jessy's father took action when he learned that his child was ill whereas the marginal social position of the twins' mother offered her no alternative but to ask her own mother for help; her own mother was neither wealthy nor in the right social position to provide

**Example 2. Eventual failure**

In April 1994 a young girl gave birth to twins, Hussein and Hansani. She had become pregnant while in primary school. After the birth her father contacted the father of the boy who had made the girl pregnant in order to try to convince him and the boy's kin to take some responsibility for the newborn babies. This request was turned down, and the young mother had to move out of her parents' home and live in a hut between it and that of her maternal uncle. Nobody wanted to accept the responsibility and the burden of caring for her and her children. In the middle of August, Hansani had a high temperature and was taken to hospital by his mother and maternal grandmother; other members of the family refused to help. Hansani was diagnosed with malaria and anaemia. It took the boy's mother and grandmother a day to raise the money needed for a blood transfusion and an unidentified antimalaria drug because hospital staff insisted on being bribed before starting treatment. The treatment had no immediate effect so the grandmother went to a local healer from whom she obtained some local medicine against *mchango*. This was administered to the child while he was still in hospital. After a month in hospital he was discharged. The mother, the grandmother, and the child returned to the village, and Hansani died the next day.

The remaining child was then considered to be in a vulnerable position because he had been born a twin and twins belong together. A traditional healer was called in to the funeral to separate the boys' souls and to protect Hussein against attacks from the spirits. The day after the funeral, Hussein played, looked healthy, and had no fever. A few days later, however, he fell ill with fever and was taken to a distant health centre where the grandmother's sister worked. She took some chloroquine from the centre and gave the child injections for 3 days at her home, but Hussein's condition did not improve. After returning to the village, the child was taken to a local herbalist who administered some unidentified herbal medicine and "burst some boils" on the child's palate. This was followed by relief for a few days, but the fever returned. This time the mother and grandmother tried to treat the problem with aspirin, but without success. They then went once more to the health centre where the grandmother's sister gave him Fansidar and some pills to treat anaemia. Hussein recovered and they returned home. After a few days, however, the fever returned and the mother and grandmother took him to another traditional healer who explained that the spirit of the brother was fighting with the child in order to get his blood, and they must arrange a ritual to separate the spirits. Hussein was now very ill, and before this ritual could be arranged they took him back to the hospital in Muheza, where he died on 14 October 1994. The hospital diagnosis was malaria and severe anaemia.

sufficient support. This had fatal consequences. Patriarchs control Bondei society. There are households led by mothers and grandmothers, but these are rare exceptions. The importance of a strong therapy management group in a society with a pluralistic and poorly functioning health care system cannot be overestimated. Example 3 shows how this can work in the case of an adult's health.

As we have seen, among the Bondei a division exists between hospital disease and local illness, and each has its own range of treatments. These cases also show, however, that the distinction between the two

**Example 3. Eventual success with traditional medicine**

Beatrice lives in a village outside Muheza with her husband and two small children. She had two more children but they died before the age of three. Beatrice had been feeling ill for a number of days with headache, fever, and tiredness. She took some Fansidar that she had previously obtained from a shop in the village. Because she felt better the next day, her husband decided to leave her at home while he worked in their field, which was some distance away. Returning at noon he found her lying on the bed unconscious and with a high fever. He called the neighbours and the men decided to carry her to hospital. The trip lasted four hours and during it she did not regain consciousness. At the hospital her blood was analysed and found to contain a high concentration of malaria parasites. She was also anaemic. She was treated with intravenous quinine and several blood transfusions, and discharged a week later. Before returning home she was told that she did not need any other treatment because she had only had malaria, and it was cured. At home, however, she had convulsions, was feverish and light-headed, and began crawling in the dirt. Eventually she was tied up and taken to one of the local healers who was respected for his knowledge of herbs and his ability to communicate with the spirits. The healer came to the conclusion that Beatrice was possessed by an evil spirit who had to be exorcised to ensure her recovery. As his own spirit was not strong enough to do this, he referred her to another healer living in Tanga town, some 40 miles away. Beatrice was taken to this man and after a few days of treatment her condition improved, although she had not been cured. The healer in Tanga told Beatrice that she had carried the evil spirit for a long time and that it was the spirit that had caused the early deaths of her two children. A ceremony had to be held, during which they would try to exorcise the spirit. The ceremony was held over three days and cost Beatrice and her family one cow, two goats, two roosters, 13 pigeons, one *kunzu* (an item of clothing), and three sheets. It was a fortune, but she was finally cured. The evil spirit disappeared, and harmonious relations with the supernatural were restored.

systems is not always clear, and an illness may appear to belong simultaneously to both.

Feierman, drawing on fieldwork in a neighbouring area, concluded that: "Treatment is diagnosis. The only way to know with certainty the cause of a particular illness is to treat that cause and see if the condition improves" (24). In the case of the Bondei this is complicated by the coexistence of two systems. The Bondei try to minimize the inherent dangers by applying a combination of Western and local treatments in cases that do not immediately respond to the initial treatment. This process makes way for new treatments to be tried until the matter is finally closed by death or recovery. The logic is consistent, but this retrospective form of diagnosis can have negative consequences for those with malaria.

**Problems with diagnosis**

Where there is drug resistance (20, 21, 25), the use of malarials can reduce parasite levels and eliminate symptoms without curing the patient. The remaining

parasites accumulate again over time and the symptoms return (16, 26). This reduction in parasites followed by their recurrence, when combined with a retrospective diagnosis, causes misjudgements and delays in treating people with malaria. The course of treatment is evaluated by the therapy management group after the fact, so that when health is perceived to have been restored the matter is closed and no further treatment is sought. However, in cases perceived to have had only a temporary positive response to treatment, or no response at all, the treatment strategy will be re-evaluated and new methods tried; this re-evaluation may include attempts to detect the cause of the sickness using local knowledge and treatment. The presence of drug-resistant malaria parasites is largely unrecognized by the Bondei, and so the concept does not yet exist in their repertoire of explanatory models.

## Conclusion

Cultural factors must be considered in implementing WHO's strategy of prompt and effective treatment

for malaria. The issues discussed in this paper illuminate the difficulties of realizing a global strategy that at some level acknowledges national variations but does not show sensitivity to the cultural variations within nations. In Tanzania there are some 128 tribes with distinct languages, cosmologies, customs, traditions, and nosologies. If these cultural variations are not taken into consideration in a strategy to combat malaria, the outcomes are likely to be similar to those described here. Additionally, knowledge of the social structure of the area is required if action is to be effective. ■

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## Résumé

### Paludisme en République-Unie de Tanzanie : aspects culturels et attitude face à la maladie

Si, pour la médecine occidentale, le paludisme et son traitement sont des entités bien définies, la façon dont cette affection et ses rapports avec d'autres maladies sont perçus est très différente dans les sociétés traditionnelles. Chez les Bondeis du nord-est de la République-Unie de Tanzanie, le paludisme est considéré comme une maladie pour laquelle on a besoin de la médecine occidentale, mais ses symptômes sont parfois impossibles à distinguer de ceux de maladies dont on pense qu'elles sont dues à la malchance ou aux mauvais esprits. La médecine occidentale est jugée sans effet sur ces dernières, pour lesquelles on recherchera un traitement traditionnel local. En se basant sur les informations recueillies au cours d'entretiens, sur l'observation d'événements survenus localement et sur des discussions de groupe informelles, les auteurs décrivent comment, chez les Bondeis, l'attitude face à la maladie s'accompagne d'un débat permanent sur les causes des symptômes observés et d'une série de tentatives visant à rechercher un traitement local si la médecine occidentale est sans effet, et vice versa. Ce processus, associé aux incertitudes engendrées par des posologies insuffisantes et une résistance aux anti-

paludiques, constitue un obstacle important au traitement rapide recommandé dans la stratégie mondiale OMS de lutte antipaludique. La structure patriarcale de cette société, qui donne au mari et au père la maîtrise exclusive du traitement recherché et des moyens de le payer, est un frein supplémentaire. Trois études de cas illustrent les problèmes qui peuvent se poser. Dans le premier, un enfant de cinq ans reçoit un traitement médical partiel, suivi d'un traitement local, suivi d'un traitement médical complet à la suite duquel il guérit. Dans le deuxième, des jumeaux bébés meurent du paludisme, d'une part parce qu'on a hésité sur le choix du traitement et, de l'autre, parce qu'il n'y avait pas d'homme pour assumer la responsabilité de ces enfants. Dans le troisième, la médecine occidentale ne parvient pas à guérir une femme atteinte de fièvre et de convulsions, mais, après une cérémonie d'exorcisme coûteuse, celle-ci guérit. Les auteurs en concluent que la lutte antipaludique demande non seulement qu'on comprenne bien la maladie et son traitement, mais aussi que l'on sache comment les sociétés traditionnelles la perçoivent par rapport à d'autres problèmes et comment elles réagissent.

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## Resumen

### El paludismo en la República Unida de Tanzania: consideraciones culturales y comportamiento de búsqueda de atención sanitaria

Aunque el paludismo y su tratamiento están bien definidos en la medicina occidental, la manera en que se perciben y su relación con otras enfermedades varían considerablemente en las sociedades tradicionales. Los

bondei, pueblo que vive en el noreste de la República Unida de Tanzania, consideran que para tratar el paludismo hay que recurrir a la medicina occidental, pero a veces los síntomas de la enfermedad no pueden

distinguirse de los que presentan otras enfermedades que ellos atribuyen a la mala suerte o a espíritus malignos. Creen que la medicina occidental no puede nada contra estos últimos y recurren pues a los remedios tradicionales del lugar. Basándose en la información obtenida en entrevistas, observando a los participantes en acontecimientos locales y recurriendo a discusiones de grupo informales, los autores explican cómo el comportamiento encaminado a recobrar la salud entraña una deliberación constante sobre las causas y los síntomas, así como repetidos intentos por hallar remedios locales cuando la medicina occidental no da resultado, y viceversa. Este proceso, unido a la incertidumbre inherente a la insuficiencia de la dosis y a la resistencia a los medicamentos antipalúdicos, constituye un impedimento importante para la pronta utilización del tratamiento recomendado por la OMS en su estrategia mundial de lucha antipalúdica. Otro obstáculo es la estructura patriarcal de dicha sociedad, que confiere al marido y al

padre el control exclusivo sobre el tratamiento buscado y los medios de costearlo. En tres estudios de casos se ilustran los problemas que pueden surgir. En el primero, se administra a un niño de cinco años un tratamiento parcialmente occidental, seguido de un remedio local y luego de otro exclusivamente occidental, tras lo cual el niño recobra la salud. En el segundo, dos bebés gemelos mueren de paludismo en parte por la indecisión a la hora de elegir entre diversos tratamientos posibles y en parte porque no hubo ningún varón que se responsabilizara de los niños. En el tercer estudio de casos, una mujer que sufría de fiebre y convulsiones no se pudo curar por los métodos occidentales, pero sí tras una costosa ceremonia de exorcismo. Los autores llegan pues a la conclusión de que la lucha contra el paludismo presupone una clara comprensión no sólo de la enfermedad y de la manera de curarla sino también de cómo la entienden las sociedades locales en relación con otros problemas y cómo actúan en consecuencia.

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