

# **Managing Malaria in Under-Five Children in a Rural Malawian Village**

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## **ABSTRACT**

Malaria is a major public health problem in Malawi, under-five children and pregnant women being the most vulnerable. This study, done among the Tumbuka of northern Malawi, details the perceptions about the aetiology, treatment and prevention of malaria in under-five children. One of the major findings is that while Fansidar is the right treatment for malaria, there are delays in seeking the right treatment because of, among other factors, perceptions about the cause of malaria, distances to the health centres, unavailability of drugs in health centres and the perception that antipyretics are the right treatment for febrile illness. While informants were able to relate convulsions in under-five children to malaria, they could however not relate splenomegaly to malaria. For both convulsions and splenomegaly, traditional medicine was the first choice when children suffered from these conditions; children were only taken to the health centre when traditional medicines failed. The problem with malaria is that it can develop from mild illness to serious illness and death within 48 hours; hence the need to seek treatment timely. The need for awareness campaigns can therefore not be over-emphasized.

## **INTRODUCTION**

As the scientific world continues the search for a vaccine for malaria, the disease continues to kill millions of people every year. Recent estimates are that malaria kills up to 2.7 million persons annually, and that 90 percent of these deaths occur in Africa, where most of the victims are children under the age of 5 years. It is estimated that 300 million episodes of clinical malaria occur each year in the African region, but the actual figure could be much higher than this (Samba 2001; see also Greenwood 1999) as in most cases the incidence of acute illness is difficult to measure because of “the imprecision in clinical diagnosis and lack of microscopic confirmation” (Breman and Campbell 1988; see also Greenwood 1999). Attempts to control malaria over the past seven decades have included the spraying of people’s homes with dichlorodiphenyltrichloroethane (DDT), the taking of malarial prophylactics, the destruction of breeding grounds for mosquitoes and more recently the use of insecticide-treated bed-nets (ITNs). The use of DDT led to the eradication of malaria in Europe and North America, but its use was discontinued, mainly because of its non-biodegradability and its lethal effects on other forms of life, for example the American bald eagle (see Duguid 2002; Murdock 2001). There have been calls for DDT to be reintroduced in developing countries because of its low price and its effectiveness in killing

mosquitoes. While some countries are still considering reintroducing DDT, other countries have already reintroduced its use in malaria control programmes, for example South Africa reintroduced it in 2000 after experiencing a very high prevalence and incidence of malaria (Duguid 2002).

In addition to these initiatives, the World Health Organisation encourages the early diagnosis of malaria and timely seeking of appropriate treatment as one way of controlling the transmission of the disease (see Breman and Campbell 1988). Due to the absence of laboratory equipment in most of the health facilities in rural areas in developing countries, such as Malawi, it is unlikely that malaria cases will be diagnosed early. This explains why most countries in the developing world give malaria treatment on presentation of fever or a history of repeated episodes of fever (see Baume et al. 2000), which is certainly a cheaper and quicker approach. Early diagnosis and treatment is advantageous as it reduces morbidity, as well as sources of new malarial infections (see Espino and Manderson 2000).

Biomedically, malaria is caused by a virus that is transmitted by a mosquito. The word malaria is derived from the Italian *mala aria* which means bad air, as previously it was thought that the foul air emanating from swamps caused the fever (see Watkins 2001). Severe malaria in malaria-endemic areas is characterised, by among other symptoms, splenomegaly and convulsions. Such biomedical conceptualisations have, however, not been universally accepted. People have their own perceptions about malaria and its accompanying signs and symptoms, which shape their decisions on prevention and therapy-seeking (see Brain 1990; Agyepong 1992; Foster 1995; Baume et al. 2000). For example, Brain claims that during the 1929–1933 malaria epidemic in Natal and Zululand, people were influenced by the traditional healers to refuse to take quinine, claiming that the government wanted to kill them, that quinine would cause impotence and sterility, and that in fact quinine caused malaria (Brain 1990). In Zimbabwe, a study conducted in the 1990s found that, although most people agreed that their houses should be sprayed, some refused because of cultural and religious reasons, although the authors do not specify these reasons (Vundule and Mharakurwa 1996). The bitterness of chloroquine and its subsequent association with the bitter traditional abortifacients, the lack of money to purchase anti-malarial drugs (see Foster 1995), and the claim that Fansidar worsens the condition of patients suffering from malaria (Matinga and Munthali 2001) are some of the factors that have negatively impacted on the malaria control programmes in Malawi.

With 43 percent of all outpatient cases and 19 percent of under-five mortality being due to malaria in the year 2000 (National Statistical Office 2001), Malawi is one of the countries that faces a huge malaria problem. In 1984 and as a direct response to the problem, Malawi established the National Malaria Control Programme (NMCP), which is under the Ministry of Health and Population. The agency is involved in the extension of people's awareness of malaria as a public health problem, promotion of timely treatment of malaria, and the institution of

effective malaria prevention measures. Prevention efforts have included the use of insecticide-treated nets, taking of anti-malarial tablets and prompt treatment of malaria in order to prevent severe illness or death (see Matinga and Munthali 2001).

Despite the fact that Malawi is a malaria-endemic country, a recent national survey revealed that the utilisation of insecticide treated bed-nets is very low, at 6 percent of the households surveyed (National Statistical Office 2001). Several reasons have been given for non-use of bed-nets in Malawi; these include “feeling like you are in a grave” or “feeling like you are suffocating” when you sleep in a mosquito net, lack of knowledge about the use of mosquito nets and where you can get them, not liking white coloured nets (most people sleep on mats, hence the nets get dirty very easily and this may affect the re-treatment rates as they would feel embarrassed to take the net for re-treatment), and the lack of money (see Matinga and Munthali 2001). UNICEF Malawi, Canadian Physicians for Aid and Relief (CPAR), the Population, Health and Nutrition (PHN) project in the Ministry of Health and Population and other agencies run the ITN projects in various parts of Malawi, and it is in these parts that a higher percentage of people use nets and a higher percentage of people know about the nets. The percentage is higher, presumably because of the intensive awareness campaigns in these areas, and because ITN committees (composed of friends and relatives) within the village have been set up, and are the ones responsible for selling the nets within the village.

While a number of ethnographic studies have been carried out in Malawi on people’s perceptions about malaria (see Bisika 1997; Matinga and Munthali 2001), the review of these studies reveals a dearth of ethnographic material on malaria among the Tumbuka people of northern Malawi, especially in children under five. Friedson’s recent work among the Tumbuka looked at dancing as a form of therapy. In his work titled “*The dancing prophets: musical experience in Tumbuka healing*”, he mentioned in passing that malaria is a well-known disease among the Tumbuka (Friedson 1996). His emphasis was on mental healing, hence he did not give a full picture of how the Tumbuka perceive malaria and its signs and symptoms.

During the in-depth interviews with old men and women and young men and women with under-five children and key informant interviews with health workers, traditional healers, traditional birth attendants and community leaders conducted in the area of TA Chikulamayembe in western Rumphi District in northern Malawi between May 2000 and May 2002, malaria was the most commonly mentioned illness by informants as threatening the lives of children under five. This paper based on fieldwork conducted amongst the Tumbuka of western Rumphi explores the Tumbuka’s conceptualisation of malaria in children under five: its signs and symptoms, local terminologies, the aetiology, patterns of therapy-seeking and modes of prevention. In malaria-endemic areas, severe malaria is sometimes characterised by convulsions, the enlargement of the spleen

(splenomegaly) and anaemia. While these signs and symptoms may be biomedically linked to malaria, it will be shown in this paper that the Tumbuka look at these as separate disease entities.

## TUMBUKA TERMINOLOGIES FOR MALARIA

The Tumbuka term for malaria is *phungu* and this term was mostly mentioned by old men and women in the study area. They said that a child who has *phungu* vomits yellowish stuff (*kubokola nyongo*), shivers quite a lot (*kunjenjemera chomene*) and has very high fever (*kotcha thupi*), despite the fact that the child feels cold at the same time. *Phungu*, according to elderly informants, is caused by changes in habitation, for example, if the child stays with its family in the urban areas and they then go to their home village in the rural areas, the child would suffer from *phungu* since he has been exposed to a new environment where he drinks *maji ya chilendo* (strange water). A number of cases were cited in which Malawian migrants working in the mines in Zambia and Zimbabwe had their children suffering from *phungu* upon returning to their rural Malawian homes. While they acknowledged that even adults suffered from *phungu*, they emphasised that children were the ones who were most vulnerable. In order to prevent *phungu*, they carried water from the urban areas which they mixed with water from the local sources (which were in most cases rivers); such a mixture was then given to the child to drink. Old men and women said that whenever they did this, children never suffered from *phungu*.

In a UNICEF-commissioned ethnographic study on malaria, Matinga and Munthali reported that the term *phungu* is also used in Mzimba and Nkhata Bay districts where Tumbuka is also widely spoken (Matinga and Munthali 2001). While old men and women referred to malaria as *phungu*, most young men and women neither knew nor used this term. They referred to malaria as “malaria” in Tumbuka, as well as in English. Young men and women said that this is the word that they have always used. If someone were to ask the elderly for the Tumbuka term for malaria they would answer that it is *phungu* – otherwise the term “malaria” is commonly used in western Rumphu and everyone understands it. Even the health workers said that the term they use is malaria. In 2002 some posters, which showed that malaria is *phungu* in Tumbuka, had been distributed and posted at the local health centre; possibly from now onwards and with publicity, people will start using the term *phungu* instead of malaria.

During the in-depth interviews, mothers mentioned the disease malaria by its English name and at the same time attributed fever (*kotcha thupi*) to malaria. All the young women interviewed were able to mention the signs and symptoms of malaria namely *kotcha thupi* (high body temperature), *kubokola nyongo* (vomiting yellow stuff) and *kunjenjemera* (shivering), the same symptoms as elders mentioned for *phungu*. It was also learnt that whenever a child has fever, most

women conclude that the child has malaria (for similar findings among the Baganda, see Launiala and Raijas-Walch 1999). This perception is not correct because, while fever is indeed one of the major symptoms of malaria, there are also other diseases that are characterised by the presence of fever, for example measles. As will be clarified later, such potential misconceptions affect the way mothers and caretakers of children seek therapy whenever their children have developed a fever.

## THE AETIOLOGY AND PREVENTION OF MALARIA

The history of malaria is replete with a number of theories about its aetiology, the earliest of which was the miasmatic theory. This theory postulated that swamp air contained chemicals which had been freed from rotting wood. This air was what was responsible for causing malaria (Ransford 1983). It was because of this theory that double storey buildings were preferred during the early days of the colonial period as it was believed that miasma did not rise above ground level (Ransford 1983) and that the miasma was thought to spread horizontally (King and King 1992). Ransford and Friedson claim that Africans were the ones who first recognised the link between mosquitoes and malaria (Ransford 1983; Friedson 1996) and in the West it was only known later through the pioneering works of Patrick Mason, Ronald Ross, Grassi and others around the 1890s.

Biomedically, malaria is caused by a virus that is transmitted by an infected female anopheles mosquito. Young women who were interviewed said that malaria is caused by mosquitoes (*nyimbu*). While most young women recognised that malaria is caused by mosquitoes, they also said that there are other causes of 'malaria', for example the exposure of the child to very cold weather (*kuzizima chomene*) and the consumption of very cold foods. Informants said that the consumption of cold foods and exposure of the child to very cold weather make the child feel cold and start shivering, consequently he or she will develop fever. Shivering and fever are perceived to be symptoms of malaria (according to informants) and this is why they conclude that cold weather and eating very cold foods can also cause "malaria". From such an explanatory model, one would expect that there should be a very high incidence and prevalence of malaria in June and July when Malawi has a winter season, however, most mothers said that while indeed there are a lot of children suffering from malaria during winter, most of the cases of malaria occur in the rainy season, but they could not link the high prevalence of malaria with the high population of mosquitoes in the rainy season<sup>1</sup>.

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<sup>1</sup> This failure complements the findings of Ramakrishna, who found that because local beliefs attribute malaria to dust, mosquitoes and sun/heat, the Yoruba therefore consider peak malaria prevalence to be in the hot dry season (Ramakrishna et al. 1989). See some similar findings in Zambia (Green 1998).

While cold weather is seen as one of the causes of malaria among the Tumbuka, in southern Ghana, in addition to coldness (for example running barefoot in the rain), malaria is also thought to be caused by exposure to external heat, most commonly the heat of the sun. Other sources believed to play a role in causing “*asra*” (the local term for malaria) in southern Ghana included heat from burning charcoal, heat from cooking or working near fire (Agyepong 1992). Such types of “hotness” were never mentioned in my study as causes of fever. While Agyepong cites physical heat as a cause of fever, my informants mentioned “ritual heat”, which arises from acts of sexual intercourse, as being responsible for the development of fever in children under five and the aged. Children under five and the aged are normally classified as “cold” and when they come in contact with anybody who is “hot” they may become sick. A child who comes into contact with a person involved in sexual intercourse contracts an illness known among the Tumbuka as *chikhoso cha moto* which subsequently leads to a rise in body temperature, thereby causing ‘malaria’. It should be stated however that *chikhoso cha moto* per se is not seen as fever, but it is accompanied by fever; and because fever is synonymous with malaria, people conclude that sexual intercourse can also cause malaria. Such views are held not only by old men and women; even young men and women have been socialised to internalise such indigenous disease explanatory models.

Those who said that malaria is caused by mosquitoes were mostly young men and women. None of the old men and women ever said that malaria can be caused by mosquitoes. The young women mentioned a number of ways in which they can prevent malaria, such as the draining away of all stagnant water around the home, cutting grass short and destroying tins and old and broken pots that might contain stagnant water as these may act as breeding places for mosquitoes. Only a few women mentioned the use of bed-nets as a measure for preventing malaria, but they were quick to point out that the major deterrent to the use of bed-nets is that they are very expensive and, since most people in the area are very poor, they cannot afford to buy them. Most of these young women have been educated up to senior primary school level and were taught at school that malaria is caused by mosquitoes. In addition, health workers also conduct health education sessions during under-five clinics. It has been argued that the anopheles mosquito, which causes malaria, mainly feeds at night, hence the use of ITNs is considered an effective malaria prevention measure. It seems that the local population is not aware of this as some studies have shown that some people would buy nets, not so much to prevent malaria as to have a peaceful sleep (Matinga and Munthali 2001).

Some traditional methods are also utilised to chase away mosquitoes from houses, the most common being the use of a herb called *kanufu*. This herb is very strong smelling; people use it to beat the walls of their houses just before they go to sleep and some herbs are left in the room, producing a very strong smell, which chases the mosquitoes away. The use of strong smelling substances to chase

mosquitoes seems to be very widespread as Matinga and Munthali cite their use in several districts in Malawi (see Matinga and Munthali 2001).

There were only a few mothers who said that they do not know how to prevent malaria, while a few others also said that it is not possible to prevent malaria:

“There is no way of preventing malaria. Even if you take care of your children properly they will still suffer from this disease” (a young female informant from Chisinde village).

While very few women said that malaria can be prevented, the preventive measures which were mentioned were based on what is perceived to be the cause of the fever: for example, the use of bed-nets in order to prevent mosquito bites, which can lead to malaria, and also abstention from sexual intercourse, especially when vulnerable babies are still suckling.

## SEEKING THERAPY FOR MALARIA

The study reveals that the younger Tumbuka people of northern Malawi believe that when a child has fever (*kotcha thupi*), it is in fact most likely that the child is suffering from malaria. Fever is one of the major symptoms of malaria, but the problem with this indigenous classification is that fever can also be caused by other diseases as well. In sub-Saharan Africa, where malaria is endemic, it has been estimated that 40 percent of all fevers are due to malaria (see McCombie 1996), and in rural Africa (including Malawi), where laboratory facilities for the analysis of blood specimens to determine the presence of *Plasmodium* species are often non-existent, health personnel have been advised to give presumptive malaria treatment whenever fever or a history of fever is reported (see Baume et al. 2000). Biomedically, the presumptive treatment approach is good as “it is unlikely to encourage the development of parasite resistance, while at the same time preventing the rapid, adverse effects of malaria in young children” (Glik et al. 1989).

Since a child suffering from malaria has very high fever, most mothers said that the first thing they do is tepid sponging, i.e. they soak a piece of cloth in cold water and cover the child with it in order to bring down the body temperature. Others, however, were against this, arguing that if you do that then your child will also suffer from pneumonia (*chilaso*), and instead of only needing therapy for malaria, you also have to look for treatment for pneumonia. Hence they discouraged the use of such a method for bringing down body temperature.

Most of the informants in this study said that whenever a child has malaria, the first thing that they do is to purchase medicines from nearby shops and most of them said that they buy antipyretics such as aspirin and panadol. This finding is similar to most of the studies carried out in Ghana (see Agyepong 1992), in Kenya

(Snow et al. 1992; Mwenesi et al. 1995), in Uganda (Kengeya-Kayondo et al. 1994), in Zambia (Baume et al. 2000) and elsewhere (for example Espino et al. 2000, for the Philippines). Informants said that they know that the child has malaria because it has a fever, and aspirin, as far as they are concerned, is the right treatment for fever (and malaria). Though the pills in the nearby shops cost less, informants said that sometimes they do not have the money to buy these pills. Because of their inability to buy medicines from shops and the non-availability of medicines that are provided free of charge in government owned health facilities, such people most often resort to the use of traditional medicines.

If the fever does not abate and the condition becomes serious, that is when they go to the health centre for treatment. Despite the fact that antipyretics are widely consumed or used as a treatment for childhood fevers/malaria, these are not the biomedically correct therapies for malaria. The perception that antipyretics are suitable treatment for malaria is one of the factors that delays the seeking of appropriate care whenever children have fever or malaria. The consumption of analgesics when a child has malaria will relieve the pain and indeed lower body temperature for a while, so that parents think that the child has recovered. After a few days, when the child again develops a fever, they may once more administer the antipyretics. The problem with this is that the *Plasmodium falciparum* virus, which is responsible for the most severe and dangerous form of malaria, can develop and cause death within two days. This explains why it is important to administer appropriate treatment whenever a child has malaria.

In Malawi's Ministry of Health and Population, the first drug of choice for the treatment of malaria is Fansidar and despite the availability of Fansidar in the nearby shops, there were very few mothers who said that they bought it for the treatment of childhood malaria. Earlier, the first drug of choice was Chloroquine, but this was abandoned in 1993 by the Ministry of Health and Population because malaria parasites had developed resistance against this drug. Chloroquine was otherwise very effective and cheap as well. One of the women said that most mothers do not want to buy Fansidar because they fear that they may overdose the child as they are informed at the under-five clinics that the safest way to treat children suffering from malaria is to take them to the health centre for treatment. Others feared to administer Fansidar to their children because they said that it worsens the condition of the child. They said that it is not only the children's condition which may worsen after taking Fansidar but also in adults', but that the situation is generally worse with children. Through discussions with young women who had children under five, it was found out that mothers do not follow the prescribed dosages of Fansidar, as the following case illustrates:

“My child suffered from malaria in May 2001 and I took him to Mwazisi Health Centre for treatment. He was given three tablets of Fansidar and 10 tablets of aspirin. I did not use all these tablets at once. I just gave the child one tablet of Fansidar and then kept the rest and a month later, when

he suffered from malaria again, that is when I gave him the rest of the medicines” (Justina Kaluwa, July 2001).

Most informants mentioned two major reasons for under-dosing: firstly to reduce the effects of the drug; and secondly, if they bought the Fansidar from the shops, they possibly only bought one tablet because they could not afford to buy the full dosage. In their study in Zimbabwe, Vundule and Mharakurwa (1996) also found that the lack of money to purchase a full set of tablets was one of the reasons for not completing the dosage. Agyepong worked in Ghana and although he does not explain why, he also mentions that, when Chloroquine is used, the dosage is sub-therapeutic (Agyepong 1992).

While people said that they do not administer Fansidar to their children because of dosage-related problems or that Fansidar makes children sicker, it can also be argued, that Fansidar is much more expensive than analgesics/antipyretics, and hence people would prefer to purchase cheaper drugs such as antipyretics (Table 1).

**Table 1.** Prices of Some Pharmaceuticals Sold in Local Shops

<b>Name of Drug</b>	<b>Use</b>	<b>Price (Malawian kwacha)</b>
Panadol	Pain killer	3.00 / two tablets
Aspirin	Pain killer	1.50 / two tablets
Parapain	Pain killer	8.60 / three tablets
Fansidar	Malaria	3.00 / tablet
Novidar	Malaria	31.70 / three tablets

From Table 1 it can be seen that antipyretics are cheap and because aspirin is the cheapest, most people said that they buy it during episodes of febrile illness. Novidar and Fansidar are the correct treatment for malaria. In formal pharmacies, Fansidar is very expensive and costs around MWK 100.00 for three tablets. Fansidar is much cheaper in the grocery shops found in western Rumphi because it is alleged that shop owners buy it very cheaply from workers in government health facilities. Novidar SP is packed in Malawi by a local pharmaceutical company and it is not available in government health facilities. It is only sold in established wholesalers and hence it cannot be sold cheaply like Fansidar. Money in rural areas is a major problem. Richardson (in Foster 1995) documents the collapse of a drug sales scheme that was selling Chloroquine at a very low price because people could not find cash to purchase Chloroquine, despite the presence in the area of a malaria epidemic. In the end the drugs were given away free of charge as otherwise they would have reached their expiry date.

People’s observation that Fansidar worsens the condition of the child or indeed an adult suffering from malaria, may be correct because, biomedically, according to health workers, Fansidar only starts working after twenty-four hours, and hence the condition of the child may get worse in the interval before the drug

starts working. Such a situation may indeed bar people from getting the “biomedically” right treatment for malaria. The right treatment for malaria consists of Fansidar and an antipyretic. The delay in seeking appropriate care is also based on people’s own interpretation of the cause of the fever. If it is perceived that the child’s fever, has been caused by exposure to people engaged in sexual intercourse, then the Tumbuka generally believe that going to the hospital with such a child is just a waste of time and money, as western medicines cannot effectively cure this type of fever. They may arrive at the conclusion that the fever was caused by exposing the child to those engaged in sexual intercourse if they find that after the administration of western medicines the child does not get better and the fever just continues, or they may consult a diviner if they find that their child is not getting cured. The unavailability of drugs at government-run health facilities, distance to the health centres and traditional beliefs in general thus promote the concept of self-medication. Foster adds that “economic barriers and cost of seeking care especially where a fee is required” may also lead people to self-medicate (Foster 1995). In Malawi, this argument would be applicable mainly to the private medical practitioner, to the paying wards at government referral hospitals and the CHAM facilities, because health services are largely provided free of charge by government, despite the Bamako Initiative. It can be envisaged from this discussion that people’s own experiences (for example the condition of the patient becoming worse after taking Fansidar) and traditional beliefs will often impact negatively on the efforts by the Ministry of Health and Population to control malaria.

Another factor that delays the seeking of appropriate treatment for malaria is the long distance as alluded to earlier. Although mothers might want to take their children to the health centres, there were claims that the health centres in most cases do not have the required medicines and hence they just give aspirins for all illnesses, while the shops closer to home stock all sorts of medicines, which can be bought easily. Some people say why should they spend time and money going to the health centre (which are located very far) while medicines can easily be found within their vicinity? While the government provides services free of charge, the drugs that are dispensed can also be easily obtained over the counter (see Snow et al. 1992). My study did not examine the health-seeking behaviour of those people living close to the health centre. Other studies have documented that the most common response to fever is to take the child to the health centre, especially when it is near (for example see Baume et al. 2000).

In the study area, most mothers said that whenever children suffer from fever/malaria, they prefer to buy medicines from the nearby shops because the hospital is very far, and that, even if they go there, the medicines are not always available. One woman described finding medicines at the health centre as a form of lottery: you can either find the medicines there or not and you do not know when you will find the medicines available at the health centre. Since most medicines are not available, most mothers claimed that the health workers instead

give out Aspirin for every illness that is presented. This is expressed in the following statement by an old informant:

“Everyone who goes to the health centre at Mwazisi is given Aspirin tablets even if that person is very sick. *Kasi dada liliko pilisi lakuchizga nthenda yili yose?* (Do you think that there is a pill which can cure all the diseases?) (an old informant, Wantulira Village).

The lack of medicines in the health centres is a chronic problem in Malawi. During the in-depth interviews with mothers, health workers were being accused of selling medicines to the shop owners, and this was given as the major reason for the unavailability of medicines at the health centres. Another factor that determines choice of therapy is the people’s own perception of what has caused the “malaria”. For example, if they think that the malaria has been caused by (*moto*) exposure of the child to those engaged in sexual intercourse, instead of going to the hospital for treatment, they first look for traditional medicine. If this sort of treatment does not work, then the child is taken to the hospital for treatment.

*Plasmodium falciparum* malaria can progress from mild illness to severe disease and death in as little as two days; hence it is important for caregivers of children to seek appropriate treatment promptly. Because of the rapidity with which the disease develops and worsens, there have been a lot of witchcraft accusations, as can be seen in the following case study:

On 2<sup>nd</sup> January 2001, a five-year old child was buried in a nearby village. He had gone to attend a church gathering some 10 kilometres away from his home when he fell ill, and as soon as he came back home he slept. The parents thought that the child was very tired after walking to and from Jumbi. The father, who worked and stayed at Rumphi Boma (some 15 kilometres away), also came home that afternoon, and finding that his son was asleep, he did not bother to wake him up. After spending some time at his home he left for Rumphi. The mother, finding that her son had fever, gave him some aspirin tablets. The condition of the child got worse and after two days the mother decided to take the child to Rumphi District Hospital for treatment. The child was vomiting and had severe diarrhoea. On returning from the hospital after receiving treatment, she met her husband and told him that the child was not well. The husband then decided that they should consult a traditional healer. The diviner told the parents that their child was bewitched by someone residing close to them in their village. He did not mention the name but just said that this “witch” was bald-headed, had a cattle byre, a pigsty and kept pigeons. Though the diviner did not mention any names, the parents of the child knew that the description fitted someone from their village. The diviner then gave them some medicine, which was later given to the child and his condition improved tremendously and he later “recovered”. After two

days the child fell sick again and a message was sent to the father. The child complained of stomach ache and was vomiting. The father, seeing the condition of the child, told his wife to put the child on her back and they left for Bolero Health Centre. Before they left, the child developed convulsions and when they arrived at the health centre the clinical officer told them that their child had already died of severe malaria.

It can be deduced from this case study that the Tumbuka may also attribute fever to witchcraft; witchcraft can also be a cause of fever in addition to the other causes mentioned previously. As far as febrile illness is concerned, households firstly do self-medication (either with medicines they purchase from shops or from the stocks that they keep in their homes) and, if the condition does not improve, they go to the health centre. They may use traditional medicines, depending on the cause of the fever, or if they do not have the money to buy medicines from the shops or if treatment from the health centre fails. The situation is complex as circumstances such as those described above may require consultation with traditional healers or diviners.

## Tumbuka Perceptions about Convulsions

While convulsions in under-five children can be due to other illness conditions, in malaria endemic areas such as Malawi convulsions are mainly due to malaria. In Tumbuka convulsions are known as *chikoko*. Most of the informants said that they do not know the cause of *chikoko*, but that what they observe is that just before an attack of this illness, the child will run a very high fever, start “*kuchenuka*” (delirium/hallucinations) and then the convulsions would follow. They said that although the child has very high fever, at the same time, he or she feels very cold and shivers. Some women said that, traditionally, a child can also suffer from *chikoko* if some indigenous practices have been ignored. For example, if a woman with a child suffering from *chikoko* passes behind (at the back of [*kumuwongo*]) a pregnant woman, it is believed that the newborn baby will suffer from *chikoko* at birth. This can be explained in terms of the notion of sympathetic magic in which the *chikoko* that the other child is suffering from is mystically transferred to the child or foetus in the womb. While this might be the emic explanation, among the Tumbuka it is generally considered disrespectful to pass behind someone’s back. Some elderly women and TBAs said that engaging in sexual intercourse and touching a child afterwards, is as if you have “startled” (*kuchenuska*) or frightened the child, and this results in the development of convulsions (fits). Among the Mijikenda of Kenya, convulsions are attributed to “a figurative ‘animal or bird’, which gets into a child if it is frightened, thus inducing the fits. Sometimes the animal or bird is said to be in the child’s mother. The child is supposedly

frightened when it sees the animal/bird in its mother's eyes" (Mwenesi et al. 1995).

The Tumbuka also believe that children will also suffer from convulsions if they eat eggs. This belief also occurs among the Tonga of Nkhata Bay District and the Ngoni of Mzimba District (see Matinga and Munthali 2001). Some informants explained that the consumption of eggs by children is forbidden, because once children taste eggs, they will find them very sweet, will always want to eat eggs, and chickens will not be able to multiply. Others felt that elders were just selfish and that they did not want children to eat eggs<sup>2</sup>. In the past, girls especially, were prohibited from eating eggs. According to the Tumbuka tradition, visitors know that they are warmly welcomed if their host kills a chicken for them. Hence, there is a need for chickens to reproduce. If children and girls are allowed to eat eggs, then they might demand them at any time. The task of welcoming visitors is a woman's responsibility; hence it is important that she keeps chickens. The girls were forbidden to eat eggs so that when they get married they will be able to keep chickens, and therefore welcome visitors appropriately. Some healers also said that eggs are sometimes used as *chizimba* in the preparation of preventive medicines for *chikoko*. Eating eggs would therefore neutralise the preventive medicine, thus making the children vulnerable to *chikoko* again. There were very few young women who said that *chikoko* was a result of malaria attacking the brain. These women said that they had learnt this at the antenatal clinics or from their friends. Mothers, in general, consider *chikoko* to be a very dangerous illness because, if proper treatment is not sought, then the child will die or may go mad.

## SEEKING THERAPY FOR CHIKOKO

Most of the people in the area said that whenever a child suffers from *chikoko*, the first thing that they do is to consult traditional healers or old men and women for treatment. There was only one traditional healer who said that since a child with *chikoko* has very high fever, the first thing that she does is to soak a clean cloth in water and cover the child with it in order to bring down the body temperature. This is done before giving the child traditional medicine.

The traditional treatments for *chikoko* mostly consist of strong smelling plants, of which *kanufu* is the most popular. Traditional healers said that strong smelling substances are used because it is believed that the smell chases away (*kutchimbizga*) the *chikoko*. When these strong smelling plant species are administered, the major indicator that the child has been cured is when he or she defecates and urinates. If he does not, then there is a way of forcing the child to do so. A piece of Lifebuoy soap is chopped into a narrow, long and roundish shape;

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<sup>2</sup> Though some people have now started giving eggs to their children, this belief about children not eating eggs is still very strong among the Tumbuka.

this is pushed in and out of the anus of the child suffering from *chikoko* repeatedly, forcing the child to defecate. When this happens, mothers are assured that the child will be fine. Leaves from these strong smelling plants are rubbed between the palms and then put very close to the nose of the child so that he can inhale some of the smell, after this the leaves are rubbed all over the child's body including the head. These strong smelling plants are also used for the treatment of convulsions in Kasungu, Nkhata Bay and Mzimba Districts (see Matinga and Munthali 2001).

If the child does not recover after he has been given the strong smelling traditional medicine, he or she is then taken to the local health centre for treatment. Some young women said that some elders within the village tend to get worried and even start crying when a child suffering from *chikoko* is taken to the hospital, claiming that the treatment that they receive at the hospital (which in most cases consists of an injection) actually worsens the condition of the child, eventually killing him. As explained earlier, children suffering from *chikoko* are first treated using traditional medicine. Such children are only brought to the health centre very late and the chances of survival are very low. These children are given an injection and when they die, people generally attribute the death to the injection, and not to the fact that the child was brought to the health centre too late.

Some traditional healers said that some of the traditional treatment for *chikoko* may not work because the child may possibly be suffering from epilepsy (*vizilisi*) and not *chikoko*, as some people might think. Hence instead of looking for treatment for *vizilisi* they look for treatment for *chikoko* and the child will not be cured<sup>3</sup>. These traditional healers said that a child with epilepsy produces a lot of foam at the mouth, while the one with *chikoko* has fever. These results are similar to the findings of the study conducted among the Luo of western Kenya and the Mijikenda of coastal Kenya which affirm that modern health facilities are the last resort when a child has fits (Mwenesi et al. 1995). While among the Luo "roots are dried and crushed and the child made to sniff the powder to induce sneezing in order to get the worms out of the head" (op. cit.), among the Tumbuka, as we have seen, fresh and very strong smelling leaves are used in order to chase away the "*chikoko*". In most cases, especially when the child has convulsions, the chances of survival for these children are very slim, because the caretakers only go to the health centre when the disease is already in its very advanced stages. In such cases a quinine injection is usually given. People do not perceive that the delay in seeking appropriate care when children suffer from convulsions is detrimental to

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<sup>3</sup> In some areas like Kasungu District in central Malawi, *khunyu* is the local term used for both febrile convulsions and epilepsy, but people differentiate between the two, in that convulsions are accompanied by fever while epileptic attacks are associated with foaming at the mouth and there is no fever (Matinga and Munthali 2001).

the children's health; hence when children die after being given an injection<sup>4</sup> of quinine, they tend to accuse the hospitals of killing their children and do not admit that they only went to the health centre when it was too late.

Mothers are very observant and in general they also share information. Experience has taught them that children suffering from convulsions do not survive when they go to the hospital for treatment and this is why some mothers even cry when their children have to go to the health centres whenever they suffer from convulsions because they anticipate that they will not be cured as there are no medicines at the health centres for this illness. Despite the health education which is given during the under-five clinics, most people do not link (convulsions) *chikoko* and malaria. Such people claim that a child with malaria is cured by Fansidar while most of the children with convulsions do not survive. There were a few women who said that convulsions are linked to malaria and such women said that as soon as a child has convulsions they rush to the health centre for treatment; however even these women first of all administer some herbal medicines before they rush to the hospital for biomedical treatment. For such women "the use of traditional medicine supplements rather than replaces modern health care" (Baume et al. 2000). As explained earlier traditional medicine is looked on as relieving the symptoms, but not necessarily curing. One of the women said that whenever her child suffers from *chikoko* she goes to the local grocery shops and buys quinine because she was told at the under-five clinic that *chikoko* is actually severe malaria (malaria *yakulu*) and that the best treatment for such cases is quinine. The few women who recognise that convulsions are linked to malaria and their positive experiences at the health centres may well act as agents of change in society, bringing about a change to an allopathic view of convulsions on the part of their fellow villagers.

Despite the fact that traditional forms of treatment for *chikoko* are widely used, there are others who feel that it is a waste of time to use these forms of treatment; they have learnt this from experience and they simply take their children to the health centre for treatment. According to medical assistants interviewed, while convulsions in children under five can also be due to other diseases or infections, in malaria endemic areas like Chisinde, convulsions are mostly due to malaria infections. These convulsions affect the brain so, to avoid brain damage, children are put to sleep using sedatives such as paraldehyde, varium or diaspum. Paraldehyde is preferred because it acts within one or two minutes unlike varium or diaspum, which are slow acting. Apart from being sedatives, these drugs are also very good anti-convulsants. It is only after this and when it is determined that the convulsions are due to malaria that the first dose of quinine is given and after that the child is referred to Rumphi District Hospital for further treatment.

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<sup>4</sup> In their study on the Kenyan coast near Kilifi, Mwenesi et al. (1995: 235–244) also reported that informants felt that "it is the injection which kills the child" (see also Baume et al. 2000; Foster 1995).

## MANAGING CHITASKA

*Chitaska* is basically the enlargement of the spleen (*kapamba*) due to infection and in biomedicine this condition is known as splenomegaly. The Tumbuka regard *chitaska* as a separate illness and think that it only attacks children. According to informants, a child suffering from *chitaska* has a swelling on the left side of his or her stomach and cries quite a lot, has a very high fever and the illness in general causes a lot of discomfort to the child. Most of the people interviewed knew that *chitaska* was the enlargement of the spleen (*kapamba*), but they could not explain what caused this condition. They only noticed that their children were suffering from the disease. Most young women also said that they were not able to “diagnose” that a child has *chitaska*, and that this is mainly done by elderly people (especially women), who then advise them to look for traditional treatment.

## SEEKING THERAPY FOR CHITASKA

Most informants (mostly women) said that the first course of action that they took when a child suffered from *chitaska* was to consult traditional healers (or any person in the know) for treatment, and that if this treatment failed they went to the hospital for treatment.

While a few women linked convulsions to malaria, none of the informants linked splenomegaly to malaria. Women said that they seek traditional medicines whenever their children suffer from splenomegaly because they believe that there is no appropriate treatment for this illness at the health centres. They make this conclusion because when they go to the hospital and they get treatment, the spleen does not return to its normal size immediately. They expect that it should not take long before the enlargement disappears. Biomedically, the spleen reduces in size very slowly and the Tumbuka would rather see a rapid reduction in size and a return to normal size. They draw the conclusion that there are no effective medicines for the treatment of splenomegaly at the health facilities. The distension of the child’s stomach in areas where malaria is very prevalent is due to the enlargement of the spleen as a result of infection by malarial parasites (see Maurel 1994; Welcome [Pty] Limited 1975).

## CONCLUSION

In the first six months of its life, the child’s haemoglobin is less attractive to malarial parasites than that found in older persons and the diet of breast milk is not particularly favourable for the multiplication of *Plasmodium falciparum* parasites. These factors, together with the antibodies inherited from the immune

mother, offer protection for the child against malaria. The introduction of other foods into the child's diet, new haemoglobin filling the blood cells and the depression of inherited antibodies after six months make children particularly vulnerable to malaria attacks (Molyneux 1988: 33–34). Once the plasmodia are injected into the body, they multiply into thousands (or even millions) and these parasites grow within the red blood cells, causing the bursting of the infected cells. Unlike the *Plasmodium vivax*, which destroys young red blood cells only, *Plasmodium falciparum* destroys both young and old red blood cells; hence *Plasmodium falciparum* is associated with very high levels of parasitaemia (see Welcome [Pty] Limited 1975). Anaemia results from the destruction of these red blood cells by malaria parasites. The destruction of the red blood cells causes them to stick together, forming small clots which block capillaries leading to areas of defective oxygenation (a condition known as ischaemia) in many tissues. The spleen, which acts as a blood filter, overworks in order to remove the destroyed cells from the blood. Repeated exposure to malaria and thus a regular and heavy workload for the spleen results in enlargement and hardening, which is especially palpable in children (Maurel 1994). The clogging of the arteries that lead to the brain, kidneys, heart, lungs, bone marrow, etc. seriously affects the functioning of these organs (see Maurel 1994; Molyneux 1988). Convulsions (*chikoko*) develop as a result of the clumping of the parasitised red blood cells in the capillaries of the brain (Welcome Pty Limited 1975: 8). Convulsions, anaemia and splenomegaly (*chitaska*) can be as a result of other infections, but in areas where malaria is endemic such as Malawi, this disease is responsible for most of these signs and symptoms.

Malaria, therefore, poses a great threat to the health of children under five. It is thus imperative that diagnosis should be done promptly and appropriate treatment sought, otherwise severe illness and death may result. The general lack of laboratory equipment, especially in rural areas of Malawi, has prompted the Government of Malawi (as well as other countries where malaria is endemic) to give presumptive treatment on presentation of fever or a history of repeated fever. While people's own interpretation of malaria and its symptoms may affect the way they seek therapy and attempt to prevent the disease, the socio-economic environment in which the health workers perform their duties needs to be put into perspective, for example problems related to transport and the shortage of drugs in hospitals.

This paper has shown that while some mothers link malaria with convulsions, they do not link splenomegaly with malaria and their ways of seeking therapy do not include the provision of anti-malarial tablets. It has also shown how the Tumbuka perceive malaria and its signs and symptoms, and how their economic deprivation together with their experience of clinics and hospitals, shape their therapy-seeking behaviour, as well as the preventive measures they take.

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