Malaria-associated Health-seeking Behaviour among the Jola of the Gambia, West Africa

Theodore Randall

ABSTRACT: This article discusses the medically pluralistic character of malaria prevention and treatment-based health-seeking behaviour among the inhabitants of a predominantly Jola village in the Gambia, West Africa. Through the presentation of ethnographic data obtained between 2003 and 2004, the paper demonstrates that traditional health services – represented by traditional medical practitioners and medicinal plant usage – among the Jola appear as much, if not more accessible, available, affordable and acceptable than the biomedical services – represented by biomedical practitioners and antimalarial medication usage – provided by the Gambian government health system. This accessibility, availability, affordability and acceptability occur to the extent that many of the villagers suggest that traditional health services become incorporated into the Gambian government health system. The need to integrate traditional and biomedical services becomes especially relevant given the existence of traditional services within the context of biomedical hegemony and limited Jola accessibility, availability and affordability of biomedical services.

KEYWORDS: biomedical hegemony, Gambia, health-seeking behaviour, Jola, malaria, medical pluralism

Introduction

Malaria constitutes one of the most threatening infectious diseases to humans in the world today. The magnitude of the disease is most apparent in Africa. In 2010, an estimated 216 million cases of malaria occurred and 655,000 people died from the disease. Eighty-one per cent of these cases and 91 per cent of the deaths occurred in the African Region of the World Health Organization (World Health Organization 2011a). The magnitude of the disease in the region comes into stark reality when one realizes that the region constitutes only 12 per cent of the world’s population (World Health Organization 2011a). Malaria is endemic in 43 of the 45 countries in the WHO African Region, including the West African country of the Gambia (World Health Organization 2011c).

The most recent and detailed epidemiological data on the Gambia indicate that in 2006 with a population of 1,663,032, the country had 469,382 malaria cases and 1,759 malaria-related deaths (World Health Organization 2008). Malaria remains the leading cause of death for children under five years of age in the Gambia (World Health Organization 2012). In response to this high occurrence of malaria, the Gambian government has increased the provision of biomedical malaria interventions such as chloroquine, sulfadoxine-pyrimethamine and artemisinin-class combination therapies directed at children under five years old and pregnant women – the two groups most susceptible to the most severe symptoms of the
disease (Ceesay et al. 2008; World Health Organization 2008). Yet, data from the World Health Organization (2008) indicate that only 65 per cent of children under the age of five years with fever, one of the most common symptoms of malaria, took antimalarial medication. This percentage leads to two questions. First, why do only two-thirds of the children with one of the most common symptoms of malaria receive antimalarial medication? Second, what are the caretakers of the other third doing to treat one of the most common symptoms of malaria?

While research has been conducted on understanding malaria-associated health-seeking behaviour in Africa, most of the research tends to focus on the identification of the factors which inhibit the utilization of Western health services and antimalarials and downplays or neglects the relevance of continued existence of traditional responses to the disease (McCombie 1996; Williams and Jones 2004). Research on malaria-associated health-seeking behaviour in the Gambia clearly reflects this trend by focusing on home treatment, household decision making, and the biomedical healthcare infrastructure (see Von Seidlein et al. 2002; Clarke et al. 2003; Okoko and Yamuah 2006; Wiseman et al. 2008). Aikins et al. (1993) provide one of the few notable exceptions through their description of local perceptions of the causes of malaria and its prevention and treatment in the Gambia. Nevertheless, their research does not specifically focus on traditional malaria-associated prevention and treatment beliefs and behaviour. In addition, Aikins et al. (1993) represent findings primarily derived from the Mandinka, Fula and Wolof ethnic groups, the three largest ethnic groups in the country. This is problematic because Aikins et al. (1993) de-emphasize the continued existence and significance of the traditional medical beliefs and behaviour associated with malaria prevention and treatment in the Gambia and do not acknowledge the diversity of the continued use of traditional medicine among the other ethnic groups of the Gambia. In response to this criticism, this article discusses the continued existence and significance of traditional medicine in reference to malaria-associated health-seeking behaviour among the Jola, the fourth largest ethnic group in the Gambia.

Health-seeking behaviour in the Gambia must be understood in the context of medical pluralism. The Gambia has a health system that possesses both traditional and Western biomedical characteristics. Traditional health systems often possess both a strong natural and supernatural component. Natural components refer to those beliefs and behaviour associated with medicinal plant use, midwifery, surgery, and so on. Supernatural components refer to magico-religious beliefs and behaviour associated with health and healing (Rubel and Hass 1996). In the Gambia, these religious beliefs and practices often manifest themselves in the synthesis of traditional African and Islamic religious beliefs and practice (Mark 1984). This article emphasizes the health-seeking behaviour associated with the natural component of the traditional healing system among the Jola.

**Study Setting**

The Jola have a population of more than 700,000, of which half a million live in the Casamance Region of southern Senegal and the remainder live in the Fogny Region of the south-western half of the Gambia (Mark 1984; Central Intelligence Agency 2012). Most of the Jola families in the village of Jarjukunda originated from the Casamance Region although the largest Jola family in the village comes from the Fogny Region of the Gambia. Although considered a distinct ethnic group, a high degree of linguistic and cultural diversity exists among the Jola. At least 12 linguistic subgroups exist within the Jola language (Sa- pir 1965; Sagnia 1984). The Jola in Jarjukunda belong to the Fogny subgroup, the most diverse of the subgroups.
To address this high degree of diversity among the Jola, Mark (1984) divides them into three major cultural zones. The first and southernmost group are characterized by their maintenance of exclusively traditional (i.e. non-Mandinka and non-Islamic) Jola cultural identity and practices. Some of this first group has converted to Catholicism although components of traditional religious beliefs and practices vigorously persist. The second, northernmost, and largest group of the Jola is predominantly Muslim, although like the first group they have retained a considerable amount of their traditional cultural identity and practices. The third, easternmost, and smallest group has adopted Mandinka agricultural techniques and language.

Indigenous cultural characteristics that distinguish the Jola from neighbouring ethnic groups in the region include their traditional religious beliefs and behaviour that involve their worship at *sinaati* shrines. The Jola possess a particular form of rice cultivation conducted near tidal streams that involves the construction of earthen dyke fields to retain rain water yet keep out salt water, and the use of the *kajandak* or *kajendo*, the distinctive Jola fulcrum hoeing and digging cultivation tool. Historically, the Jola also traditionally possessed an egalitarian form of social organization and a spirit of isolation and independence that differed from their Mandinka, Fula and Wolof neighbours, who possessed a hierarchical social organization based on caste and territorial expansion (Mark 1984; Smith 1993). This sense of Jola independence possibly explains some of the persistence of traditional medicine usage with regard to malaria treatment among this ethnic group.

**Methods**

The field data analysed in this paper were derived from a consecutive 12-month qualitative data-collection period between 2003 and 2004 approved by the Ethics Committee of the University of Kentucky’s Institutional Review Board. The research consisted of 66 interviews of the male and female heads of households of the approximately 120 extended family households in Jarjukunda and centred on the examination of their beliefs and behaviour associated with malaria aetiology, prevention and treatment (Randall 2006). These participants were recruited in a non-random manner via convenience and purposive sampling (Bernard 1995). To assess the similarities and differences in malaria-associated health-seeking behaviour among the various ethnic groups of the village, households representing each of the village’s major ethnic groups were selected for the research. The selection process yielded a sample that closely resembled the ethnic composition of the village (i.e. 70 per cent Jola (47 households), 11 per cent Fula (7 households), 8 per cent Mandinka (5 households), and 11 per cent other groups including the Wolof, Manjako and Papel (7 households)).

The author’s two research assistants (both Jola – one male and one female) conducted semi-structured interviews with their families, then interviewed other members of the village – first their neighbours, then their friends, and then other members of the village. All participants responded to semi-structured interviews which asked open-ended questions concerning their malaria-associated beliefs and behaviour. Extensive participant observation and follow-up conversations focusing on actual behaviour, context and data clarification supplemented the data obtained from the interviews.

**Results: The Four ‘A’s of Malaria-associated Health-seeking Behaviour in Jarjukunda**

Hausmann-Muela et al. (2003) identify four factors that assist in understanding health-seeking behaviour among people in the developing
world: accessibility, affordability, availability and acceptability.

**Accessibility**

Accessibility pertains to the ability to get to the healthcare provider. Variables concerning accessibility include means of transportation and distance to the healthcare provider. The village of Jarjukunda is located more than three miles from the nearest health clinic and very few participants (only four of the sixty-six) had private motorized transportation. Because of the distance of the village from the nearest governmental health clinic, the vast majority of those afflicted with malaria or their caretakers must use public transportation to get from the village to the clinic. All of the respondents considered public transportation both unreliable (i.e. infrequent) and expensive. Because of the lack of reliable public transportation, the malaria-afflicted person might have to walk over three miles (approximately five kilometres) to the nearest clinic. Moreover, due to the weak transportation infrastructure, if malaria-afflicted individuals became very sick in the evening, they would have to wait until the next morning to travel to the clinic because of the lack of road lighting. During the rainy season (also referred to as the malaria season and the hunger season, the time of the year when village household incomes from agricultural sales tend to run out), the roads are often impassable due to deteriorating conditions. People may lack the funds to pay for public transportation and medical services (Madge 1998. In 2004, public roundtrip transportation from the village to the nearest clinic cost approximately U.S.$0.66 (exchange rate of thirty Dalasis to one U.S. dollar) (Central Bank of The Gambia 2004). All participants considered this expensive. This issue of transportation affordability is plausible given that 59 per cent of the population of The Gambia earns less than U.S.$1 per day and 83 per cent earn less than U.S.$2 per day (United Nations Development Programme 2007).

**Affordability**

Affordability concerns the ability of the sick person or caretaker to purchase desired healthcare services and transportation to these services. In essence, the less affordable the medical and transportation services, the less likely the sick person or caretaker is to use them. In the Gambia, traditional plant-based malaria treatment does not cost as much as biomedical treatment. The people of Jarjukunda can either personally obtain the desired medicinal plants from their nearby garden or the forest or from family members or friends for free or obtain the services of a traditional medical practitioner for about U.S.$0.12. In 2004, biomedical services from the government health clinic cost the equivalent of U.S.$0.17. This price has remained relatively constant for nearly a decade and the respondents consider the cost of government health services affordable; yet the respondents do indicate that the poor are more likely to use traditional (referred to as ‘local’ by the respondents) medicine. For example, as one of the village health workers stated: ‘If people see you using local medicine, they say you are poor’. The issue of poverty and its association with health-seeking behaviour holds a particular significance given that over half of the people in the Gambia are considered poor (United Nations Development Programme 2007).

**Availability**

Availability pertains to the presence of obtainable health services and medicine and addresses issues such as, ‘Is the provider and/or medication currently present at the health clinic?’ Even if the person seeking healthcare gets to the clinic, issues concerning the availability of medicine and medical practitioners may arise. The respondents stated that govern-
ment health facilities frequently suffered from medicine shortages. Because of these medicine shortages, a sick person might end up paying for expensive public transportation or walking three miles (five kilometres) to the nearest clinic only to discover that they may not have any biomedical anti-malarial medication. These medicine shortages may discourage people from going to the clinic when they have malaria. A 25-year-old Jola woman told me:

I do not like going to the clinic because they never have medicine so I have to go to the pharmacy. When you find out they [the health clinic] have no medicine, this makes your malaria worse.

Shortages of anti-malarial medication at the government clinics result in people seeking chloroquine and other types of biomedical treatments for malaria from private pharmacies. Most of these treatments cost considerably more than those provided at the government health facilities. For example, in 2004, the complete chloroquine tablet treatment cost about U.S.$0.25 at a pharmacy. However, many of those using biomedical treatment often seek it after the disease has progressed and thus require more intensive treatments such as chloroquine syrup or injections. These treatments cost approximately U.S.$1.00 or U.S.$1.50, respectively. Due to chloroquine resistance, other types of anti-malarial medications such as sulfadoxine-pyrimethamine along with vitamins, blood pressure screening, antibiotics, and pain relievers might be needed as well. The complete treatment at a pharmacy could cost from $8.30 to as high as $20 if provided at a private health clinic. This clearly raises concerns about the affordability of biomedicine and its association with availability. Because of the villagers’ low income, the cost of anti-malarial medicine is expensive. Even a pharmacist acknowledged that he actually benefits from the anti-malarial medicine shortages by saying: ‘[These shortages] are bad for the people but good for business’.

There is also a paucity of biomedically trained practitioners in The Gambia. According to the World Health Organization (2011b), the Gambia has provider/patient ratios of only four medical doctors per 100,000 people and 57 nurses per 100,000 people. There are so few medical doctors in the country that many facilities are staffed with only nurses. Only 10 per cent of medical doctors in the public health sector (the sector used by most Gambians) are of Gambian origin (World Health Organization, n.d.). Because of this shortage, many of the medical doctors practicing in the Gambia originate from other countries, such as Cuba (Joint Learning Initiative 2004). The shortage of medical doctors is attributed to the fact that the Gambia has only had a medical school since 1999 and that medical doctors can earn considerably more income in the private sector or high-level government administrative posts. Because of lack of medicines, doctors, and problems getting to clinics, several respondents expressed the belief that: ‘The health centre is the last choice for treatment’.

Several of the respondents also indicated that they either grow malaria-associated medicinal plants within their household grounds or obtain these plants from the nearby forest, often self-administering them to treat the disease. The close presence of these plants to those seeking treatment make biomedically based treatments such as chloroquine or sulfadoxine-pyrimethamine less accessible than traditional plant-based medications. The most commonly used herbs or plants to treat malaria were (in Jola followed by the scientific nomenclature in parentheses): kaputarbang (Cassia occidentalis), moringa (Moringa oleifera), barusab (Combretum micranthum), kaseyitek (Cassia sieberiana) and neem (Azadirachta indica). Various parts of these plants (typically the leaves or bark) are boiled and drunk as a tea. Honey with or with-
out lime (Citrus aurantiifolia) is also ingested to treat malaria. The respondents said that these treatments are easy to self-administer if one knows how to identify the particular medicinal plant and administer the proper dosage; those who do not, seek the services of a traditional healer (Randall 2006, 2008).

There is a greater availability of traditional healers as compared to biomedical practitioners. According to the World Health Organization (2002), there are between 50 and 100 times as many traditional medical healers as biomedical practitioners in sub-Saharan Africa. Each ethnic group in the Gambia possesses specific names for these traditional healers and these names may convey the particular treatment practices of these healers. For example, a traditional healer who specializes in medicinal plant knowledge and administration of these plants is called an alakow in Jola; all ethnic groups use the more general term marabouts to refer to traditional healers. Marabouts can provide either exclusively supernatural (predominantly Islamic, traditional African religion, or a combination of both) procedures, exclusively natural, or both natural and supernatural healing procedures.

**Acceptability**

Acceptability concerns the cultural and social distance of the health seeker’s beliefs and behaviour from the contemporary biomedical prevention or treatment being offered to him/her. Acceptability also refers to the person in question’s belief that the particular health service can address their health problem. This typically means the greater the belief in the effectiveness of the particular type of health service, the more likely the person in question will use that particular type of health service over other forms of health services. Health-seeking behaviour associated with acceptability factors becomes quite apparent when considering differences (or compatibilities) in aetiological (disease causation) beliefs. For example, if a person or group’s aetiological beliefs concerning a health problem suggest that the health problem cannot be treated by biomedicine, that person or group may be less likely to seek treatment at a government (biomedical) health clinic. Therefore, the rationale for considering aetiological beliefs in this research stems from the influence of culturally specific health beliefs on health-seeking behaviour (Agyepong 1992; Brown 1997; Pelto and Pelto 1997; Yoder 1998 Manderson 1998; Green 1999). The particular expressions of each of these four factors facilitate the use of a particular health system or systems.

The continued use of traditional medicine raises the question of the quality and the effectiveness of these procedures in treating malaria. Etkin (1988) states that the effectiveness of plant medications and other traditional treatments should be based on culturally determined outcomes. Like Etkin, this article does not attempt to prove treatment effectiveness by biomedical standards; however, Baer et al. (2003) state that between 25 per cent and 50 per cent of the pharmacopoeia (plants, minerals, etc.) in traditional medical systems have empirically demonstrated their effectiveness by biomedical standards. Traditional medicine-related beliefs and behaviour expressed in Jarjukunda are considered effective by those who use them. It is also the case that biomedical services may not be more effective than traditional medicine. Research on biomedical malaria treatment in West Africa has demonstrated that the predominant and deadliest malaria parasite, Plasmodium falciparium, has a 20 per cent to 35 per cent resistance to chloroquine (typically, the first line of treatment in West Africa) and increasing resistance to sulfadoxine-pyrimethamine (the more expensive alternative to chloroquine) (Nchinda 1998; Trape et al. 1998; Attaran et al. 2004; World Health Organization 2008). A research participant expressed his awareness of the failure of biomedicine to treat malaria effectively by saying: ‘Malaria has resistance to the drugs, so we use herbs’.
**Practice Patterns**

Sixty-two of the sixty-six respondents interviewed provided sufficiently detailed responses concerning how they treat malaria. The responses were initially organized into three categories: (1) exclusively biomedical (i.e. utilization of only government health facilities or private pharmacies to obtain Western antimalarial medicine), (2) exclusively traditional (i.e. utilization of only traditional healers and plant-based anti-malarial medicine), and (3) a combination of traditional and biomedical (i.e. the utilization of both traditional and biomedical medicine simultaneously or one initially followed by the other under certain situations). Table 1 displays the results of that organization for Jarjukunda.

The data illustrate that only a minority of the inhabitants of Jarjukunda, regardless of ethnic affiliation, treat malaria through either exclusively biomedical services and medicine or traditional services and medicine. There does appear to be a higher tendency for the Jola in comparison to non-Jola (Fula, Mandinka, Wolof, etc.) to rely exclusively on traditional medicine to treat malaria. Nevertheless, the majority of the inhabitants of Jarjukunda, regardless of ethnic affiliation, use a combination of both biomedical and traditional services and medicine, a phenomenon anthropologists refer to as medical pluralism. The use of both biomedical and traditional services often occurred by the inhabitants initially using traditional services and medicine, then seeking biomedical services and medicine if the traditional services and medicine did not appear to work. Thus, biomedicine in this context appears to be used as a last resort. The primary reasons for this are the accessibility, affordability, availability and acceptability factors that favour the use of traditional medicine. In other words, the inhabitants of Jarjukunda live in close proximity to an abundance of low-cost or free traditional medical services and medicine that the majority of the respondents believe can effectively treat malaria. However, since the majority of the inhabitants of Jarjukunda recognize and utilize both health systems, both traditional and biomedical antimalarial responses to malaria are considered acceptable.

**Health-seeking Behaviour in Jarjukunda: A Jola Family’s Response to Malaria**

To further refine our understanding of the pluralistic character of the malaria-associated health-seeking behaviour and how the factors of accessibility, affordability, availability and acceptability influence people’s decision-making processes, we will look at a particular family’s responses (individual names given as pseudonyms) to malaria. This particular family has many similarities to other compounds in Jarjukunda yet it is somewhat different from many of the other compounds as well. The similarities pertain to the fact that they are Jola (like most of the families in the village), a large family (20 people live in the compound), pious Muslims (pray five times a day, dress conservatively, do not drink), value their traditional culture (including a high regard for traditional

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Exclusively Biomedical</th>
<th>Combination of Both Biomedical and Traditional</th>
<th>Exclusively Traditional</th>
<th>Total Number of Ethnic Group Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jola</td>
<td>4 (9 per cent)</td>
<td>30 (67 per cent)</td>
<td>11 (24 per cent)</td>
<td>45 (100 per cent)</td>
</tr>
<tr>
<td>Non-Jola</td>
<td>3 (18 per cent)</td>
<td>13 (76 per cent)</td>
<td>1 (6 per cent)</td>
<td>17 (100 per cent)</td>
</tr>
<tr>
<td>Total</td>
<td>7 (11 per cent)</td>
<td>43 (69 per cent)</td>
<td>12 (19 per cent)</td>
<td>62 (100 per cent)</td>
</tr>
</tbody>
</table>
Malaria-associated Health-seeking Behaviour

medicine) and obtain a substantial portion of their income from agricultural production. This family differs from other families in the village in that they originate from the Fogny area of the Gambia and not the Casamance as all of the other Jola families in the village. The majority of adult women in this family, siblings of the head of the compound, are not married and completed secondary school. One of the adult women in the household is formally employed as a secretary while another is currently one of my research assistants, and plans to pursue some form of tertiary education in business management. This family also appears to have more observable material wealth than all of the other families in the village. They have a tractor and a car (both received as gifts) and multiple income earners.

Nevertheless, it would be misleading to assume that this family constitutes a higher social class than the rest of the families in the village. The 20-member compound consists of six males and 14 females whose ages range between 18 months (the youngest child of the head of the compound) and 56 years old (the mother of the head of the compound) at the time of the 2003 to 2004 research. The majority of people in the compound are financially dependent on the compound’s four income earners, the head of the household and his adult siblings.

Although the compound has four income earners, for a variety of reasons, the head of the household primarily relies on income from agricultural production that varies throughout the year. The brother of the compound head is saving up so he can marry and establish his own compound; the sisters are financing their own education. Therefore, the amount of actual income earned by each is considered by the head as barely enough to support the large number of dependents in the compound. These income earners consider both malaria prevention (e.g. environmental sanitation, because of tool costs and labour and bed nets) as well as biomedical malaria treatment expensive. This particular family is also a member of the largest extended family (eluup) in the village. Thus, they have an obligation to support members of the extended family numbering approximately 100 members when they are in great need.

The income of this family does not appear to be the only factor (or even the most significant factor) that influences their health-seeking behaviour. For example, although the family consists of 20 people, there are only five mosquito nets in the compound. Of these five nets, only two seemed to have received any widespread usage. These nets belonged to the head of the household, Bakary (a 35-year-old farmer, beekeeper, carpenter and my primary research consultant with ten years of formal education) along with his wife and youngest child and his mother Alimatou (a 56-year-old homemaker with no formal education). Bakary and Alimatou used bed nets more frequently than the other members of the compound. Both indicated that bed nets help provide a degree of privacy. The other bed nets were only used during the late rainy season, which is the height of the malaria season (August to October) although mosquitoes exist throughout most of the year except in January. None of these bed nets had been treated with insecticide.

A considerable amount of diversity exists within this particular family in Jarjukunda concerning their beliefs and behaviour associated with malaria treatment. Bakary, as well as the rest of the adults in the family, strongly believe in the effectiveness of traditional plant medication. Bakary and his mother (Alimatou) possess a considerable knowledge of medicinal plants and grow plants such as moringa (*Moringa oleifera*) and neem (*Azadirachta indica*) on the compound grounds. Bakary and his brother, Ebrima (a 30-year-old unmarried farmer and carpenter with ten years of formal education), also have a high regard for traditional Jola culture to the extent that they supervise traditional cultural ceremonies. These
traditional ceremonies include the male adult initiation ceremony called *futampuf* and public demonstrations of the healing and protective power of traditional religious beliefs and practices. Both Bakary and Ebrima stated they have never had malaria and attribute this to the supernaturally empowered protective amulets they wear called *juju*. Although these members of the family maintain high regard for traditional approaches to health, they also utilize biomedical services for some of the family’s malaria-associated problems. The brief case studies provided below illustrate the medically pluralistic nature of malaria treatment in the village.

Alimatou had malaria in 2004. Initially, she took some traditional medicine (she referred to it as local medicine) in the form of a tea made from moringa leaves. Her condition worsened so her son Ebrima took her to the private pharmacy to purchase medication. Ebrima told me that the total treatment, which consisted of chloroquine injections, paracetamol and other medicines, cost D250 (U.S.$8.30). Alimatou made a full recovery.

Alimatou’s daughter, Awa (an unmarried 25-year-old secondary school graduate) also had malaria in 2004. Although Awa is a member of the household, she spends most of the week in Serrekunda working as a primary-school secretary and attending business management school. When Awa believed she had malaria, she left Serrekunda (the largest city in the country and the location of several accessible health clinics) and travelled 20 kilometres to Jarjukunda in order to drink moringa tea to treat her malaria. Awa indicated that chloroquine causes her to itch and the health clinic typically does not have any antimalarial medication. While at the village she drank moringa tea, her condition improved, and she recovered fully from the disease.

On at least two occasions during the research period, I observed Bakary treating his 18-month-old daughter, Isatou, for malaria. Bakary’s wife, Aminata, informed Bakary of Isatou’s condition. The first time this occurred, Bakary responded by giving Isatou and the other children in the compound an elixir composed of honey and lime. Isatou made a full recovery. Bakary indicated that he prefers this treatment to all other treatments, be they traditional or biomedical, since he has access to honey and he believes in honey’s multiple healing properties. A few months later, Isatou was believed to have malaria again but Bakary did not have any honey so Aminata made a large container of tea from moringa leaves and made every child and encouraged every adult in the compound to drink it. Isatou fully recovered. No one actually stated that Isatou had malaria this second time. However, when any of the children in the compound show signs of malaria or indicate that they have a fever or headache all of the children are treated.

**Discussion**

These case studies demonstrate the medically pluralistic nature of malaria-associated health-seeking behaviour within a specific family. As observed, the specific health-seeking behaviour among this family is influenced by accessibility, affordability, availability and acceptability factors although the weight placed on any one of these factors varies from person to person within the family. For example, accessibility in and of itself does not appear to have been a major issue. Once family members decided on what type of services they wanted, they got to them. Family members would wait for public transportation and pay the necessary transportation fees if they desired the biomedical services provided by the government clinic.

Affordability, if the malaria case is perceived as an emergency, did not appear to be a problem as well. If the family members desired biomedical services, they would spend the money on such services. If they did not personally have the money, they could draw upon their
extended family or other social networks to obtain the necessary money for the biomedical services.

In this family, availability appears to be a more significant factor influencing health-seeking behaviour than accessibility and affordability. A family member could endure the difficulties of public transportation and have the money for this transportation and treatment at a government health clinic but not receive treatment at the clinic because the medication is unavailable, resulting in a waste of precious time and money.

Moreover, this family accepts the therapeutic value of both traditional and biomedical antimalarial services. The acceptability of both forms of medicine combined with the aforementioned accessibility, affordability and availability factors explains the common pattern of family members initially taking traditional medicines to treat malaria and then seeking out biomedical services only when the traditional medicines do not appear to work. Even though traditional antimalarial treatments may fail (often attributed to improper administration of the plant medication, either not enough or not taken soon enough in the sickness process), the case studies presented here also demonstrate the continued acceptability of traditional antimalarial medicines because the experiences of the family with traditional antimalarial medication demonstrate that it is effective in some situations and for some people.

The acceptance of both traditional and biomedical antimalarial services by the people of Jarjukunda reflects the pluralistic character of their health beliefs and behaviour. According to Baer et al. (2003), the particular expressions of medical pluralism in a particular society reflect the dominant sex, race (ethnic), age and class hierarchies present in that particular society. In the context of the Gambia, those persons who can afford and who live in close proximity to biomedical services (i.e. the urban wealthy) may be more likely to use and advocate biomedical services than those persons who are poor and live farther away from clinics (i.e. the rural poor – over half of the Gambia’s population) (United Nations Development Programme 2007). Increasing biomedical hegemony in the Gambia could result in decreased indigenous knowledge of medicinal plants among lay persons and traditional healers, a decrease in the value and number of traditional healers, and a decrease of the acceptability of traditional medicine among the rural poor. Several of the respondents, including one of the village health workers, attributed unsuccessful traditional treatment occurrences to the failure of proper administration by who the participants referred to as unqualified herbalists not the medicinal plants. If traditional medicine becomes less acceptable in a setting where biomedical services are not fully accessible, affordable or available, this would potentially exacerbate the Gambia’s malaria problem.

Conclusion

Further studies on malaria-associated health-seeking behaviour in the Gambia must proceed with the acknowledgement that many Jola continue to utilize traditional medicine heavily in response to malaria. This utilization is associated with accessibility, affordability and availability barriers to biomedical antimalarial services and medicine, but not exclusively so. In other words, traditional medicines used to treat malaria exist within a short walking distance of those who desire them. Many possess knowledge about these medicinal plants and either personally know or know someone nearby who can administer these plants. The use of these plants is either free or inexpensive and they are never out of stock. Most importantly, many of the villagers believe these plants can address their malaria problems. In response to this situation, many of the respondents recommended that the gov-
ernment should evaluate the effectiveness of traditional services and medicines. They also recommended that the government improve the public health infrastructure by training more biomedical practitioners, developing an efficient ambulance service that covers rural areas, obtaining and managing the distribution of effective biomedical anti-malarial medication, and incorporating effective traditional medical services and medicines into the Gambian public health system.

In response, commonly used traditional medicinal plants used to treat malaria, such as Cassia occidentalis, Moringa oleifera, Combretum micranthum, Cassia sieberiana and Azadirachta indica should be subjected to scientific scrutiny, although ideally such research should be conducted in such a way as to protect traditional knowledge and natural resources from commercial exploitation. In particular, practices of pharmaceutical research could threaten a key perceived advantage of traditional herbal medicines: their accessibility and affordability, as well as the ecological balance of plants in the relevant areas. Nonetheless, if any or all of these demonstrate any sufficient degree of antimalarial properties, their use should be strongly advocated by the Gambian Health Ministry and wider global health community and protected in terms of sustainability and access. Research on the use of and/or the antimalarial properties of these plants in the Gambia and other African countries has been conducted and has acknowledged the medicinal or antimalarial properties of these plants (Burkill 1985; Iwu 1993; Madge 1998; Bojang 1999; Soh and Benoit-Vical 2007). Now is the time to bring these findings into application by developing health policy that advocates and incorporates the appropriate use of these plants into national public health systems – especially within those countries with ethnic groups that already use these plants in their traditional medical systems. Incorporating these traditional antimalarial treatments into the government health system would serve to alleviate accessibility, availability, affordability and acceptability issues associated with effective malaria treatment in the Gambia and elsewhere.

The use of traditional medicine has been advocated for nearly a decade by the World Health Organization (2002) but the acceptance and incorporation of traditional medicine into the Gambian health system has not occurred. As one of the villagers expressed:

Television and radio talks against local medicine. There are local treatments that work but the government wants you to use Western medicine.

This villager’s comment reflects on what medical anthropologists refer to as biomedical hegemony. In the context of malaria treatment in the Gambia, biomedical hegemony is problematic since malaria parasite resistance has been demonstrated in standard biomedical antimalarial treatments such as chloroquine and sulfadoxine-pyrimethamine and given the high cost of the more effective artemisinin-class combination therapies. According to Ndugwa et al. (2008), these issues with the standard biomedical antimalarial treatments may explain the lack of any significant decline in malaria-specific mortality in the Gambia.

Moreover, it is hoped that this study demonstrates the utility of anthropological theory, methods and data in response to understanding and addressing health-related issues in the developing world. A member of the village employed as a community development official provided a statement supporting this by saying:

One way to development is that policymakers must listen to people and treat them as equals. Policymakers have to come to the village, not just read about us.

Anthropology typically obtains data in the above manner as well as demonstrates the significance of indigenous knowledge in regard to health-related issues in the developing world in general and, in the case of this
research, malaria aetiology, prevention and treatment among the Jola of the Gambia in particular.

Acknowledgements

The author would like to thank the U.S. Department of Education Fulbright Program for their generous support during the 2003 to 2004 phase of the research. A special thanks to Gail McGuire, China Scherz, Rebecca Torstrick and anonymous reviewers for their constructive review of earlier editions of this manuscript.

Theodore Randall is an Assistant Professor in the Department of Sociology and Anthropology at Indiana University at South Bend. He has a PhD in Anthropology from the University of Kentucky and a MPH in Public Health from the University of Illinois at Springfield. He conducts research in the Gambia, Nigeria, and the United States. His research in the Gambia and Nigeria focuses on malaria, pregnancy-related care, traditional medicine, health-service delivery, and religious syncretism. His research in the United States focuses on substance abuse and teenage pregnancy among African Americans. He teaches courses in African American culture, African culture, applied anthropology, anthropological theory, economic anthropology, medical anthropology and qualitative research methods. E-mail: thrandal@iusb.edu

Notes

1. More recent editions of WHO’s World Malaria Report are available (see the 2009, 2010 and 2011 World Malaria Reports) but they lack the completeness of the World Malaria Report 2008. The most recent report (World Health Organization 2011c) is used when possible and for relevant comparative purposes.

2. Greenwood et al. (1987) indicate that 40 per cent of all febrile episodes (i.e. fever symptoms and the most common symptoms of malaria) are attributed to malaria. Similar findings are presented in the 2008 World Malaria Report (World Health Organization 2008).

3. Forty two per cent of Gambians belong to the Mandinka ethnic group. The Fula, Wolof, Jola, Serahuli and other ethnic groups respectively constitute 18 per cent, 16 per cent, 10 per cent, 9 per cent and 5 per cent of the total population. Other ethnic groups include the Serer, Tukolor, Manjako and Papel (Central Intelligence Agency 2012).

4. In total, 20 months of field work were conducted. This includes four weeks during the summer of 1997, six weeks during the summer of 2000, 12 consecutive months between October 2003 and October 2004, five months in the latter half of 2006, and eight weeks in the summer of 2008. The 2008 research was approved by Indiana University South Bend’s Institutional Review Board Ethics Committee.

5. As with note 1, more recent editions of the Human Development Report are available (see the 2011 Human Development Report) but they lack the completeness of the 2007 Human Development Report. The data from the 2007 Human Development Report (mostly from 2005) is also more compatible to the time of the ethnographic research I conducted in 2003–2004.

References


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