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Indigenous knowledge in the management of malaria and visceral leishmaniasis among the Tugen of Kenya

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The preservation and propagation of many indigenous communities has depended on their continuing application of time-honoured indigenous knowledge in the exploitation of the existing resources. In the area of health care, this knowledge has become the basis for the management of ill-health and disease. This paper discusses the use of indigenous treatment regimens practised by the Tugen of Kenya for two illnesses: malaria (esse) and visceral leishmaniasis (nwak). Furthermore, it postulates that the Tugen's use of herbal medicine is based on a confluence of two factors: their belief in the efficaciousness of their herbal medicine, and the high cost and inaccessibility of health care.

Indigenous medicine has for centuries been the mainstay of the health care system in non-Western communities, and its continued utilization must be taken seriously. One area in which indigenous medicine has not developed in the same way as Western medicine is in the construction of precision methodologies for testing its effectiveness. Often those trained in Western medicine have taken this to mean that indigenous medicine is not effective. But the apparent absence of Western-type methods for testing the efficacy of indigenous medicine should not be seen as evidence of its ineffectiveness. Moreover, African societies have a system for measuring the efficacy of their medicine within a social context. At one level, it is not so much the effectiveness of the remedies which counts, as the community's acceptance of the practitioner. This is reflected in the fact that the community refers patients with particular ailments to a specific practitioner. Such collective behaviour is indicative of the community's recognition of the effectiveness of that practitioner's medicine. Another social dimension used to determine the efficacy of indigenous medicine is the manner in which the individual became a practitioner. Some come from a long line of practitioners, whereby indigenous knowledge has been handed down from father to son or mother to daughter. Others were trained by a highly recognized practitioner. The physical and mystical environment within which medicine is practised is another important factor in determining a practitioner's expertise and the efficacy of his remedies. It is for this reason that in African medical practice, rituals, incantations, charms, symbols and beliefs play such an important role. In short, it is the community which in the end defines the efficacy of indigenous medicine, on the basis of the practitioner's record, i.e., concrete cases of patients who have been healed. While some healing aspects of indigenous medicine are not yet fully understood, the Tugen, like other African communities, have faith in the efficacy of their medicine, because it is attuned to their culture and their beliefs.

Tugen nosology and indigenous medicine

The Tugen people, who are part of the Kalenjin ethnic group living in the Rift Valley Province of Kenya, have two sub-ethnic groups which are distinguished by dialects, i.e., Arror and Samor. Ecologically, the Tugen divide their area into three zones: Mosop (the highlands), Soin (the lowlands) and Kurget (the areas between the highlands and the lowlands). Soin is further divided into two zones: the lowland plains to the West of the Tugen hills are called Turukwei, while the lowland plains are known as Mogoswok.

These ecological divisions have influenced many facets of Tugen life, including the evolution of indigenous medicine. The Tugen herbal pharmacopoeia, which includes various plant species, is available mainly in areas designated as Mosop, as well as in Soin and Kurget. The preponderance of herbal plants in Mosop is due in part to the fact that the other areas are semi-arid, while Mosop is covered with forests, and has a pleasant climate. A study of Tugen indigenous medicine shows that over time the Tugen have experimented with, identified and selected plants which they believe can cure illnesses. This process of plant identification among the Tugen is deliberate, and as Etkin (1993:150) correctly points out, purposive, so that it cannot be said to depend simply on the availability of plants. The Tugen believe in natural and non-natural causes of illness. For example, some of the Tugen believe that malaria is caused by Cheko che makiyo (fresh unboiled milk), dirty water, and ikwek (vegetables), such as *Solanum nigrum* and *Gynadropis gynadra* (Kaendi 1994). Tugen aetiological beliefs on malaria are logically valid, especially within the ecological context in which they live. Similarly, some Tugen people think that *nwak* (visceral leishmaniasis) is caused by fatty foods, especially meat and milk, while others believe that it is caused by eating cold foods, such as *ugali* (meal made from maize flour). However, it has been established that visceral leishmaniasis, which affects the liver and spleen, is transmitted by the female sandfly. The aetiological beliefs which the Tugen entertain with respect to these two diseases and their symptomatic presentation, have influenced the way they are dealt with. Although indigenous practitioners among the Tugen include herbalists, diviners and birth attendants (Nyamwaya 1986:161-163), in the treatment of *esse* (malaria) and *nwak* (visceral leishmaniasis) the most important practitioners are the herbalists, known as *Kipsaketinik*. The *Kipsaketinik* generally prescribe and dispense aqueous medicines prepared from roots, leaves, bark, and other plant or animal parts. Other indigenous practitioners are rarely consulted in the management of malaria and visceral leishmaniasis, except in the case of life-threatening illness, where there is concern that there may be some supernatural forces in the aetiology of the disease. In such cases, the *orgoiyon* (diviner) is consulted.

The treatment of malaria and visceral leishmaniasis

Despite the introduction of Western medicine into many Kenyan communities over a century ago, the Tugen still rely to a greater or lesser extent on indigenous forms of treatment. In a study carried out in Marigat division of Baringo District, it was found that in addition to Western-based health care, indigenous forms of treatment were being used in the management of malaria and visceral leishmaniasis (Kaendi 1994). Because of their belief in the efficacy of indigenous treatments and the unavailability or inaccessibility of medicines in Western-based health care facilities, the use of herbal medicines is widespread. This is reinforced by the fact that members of the Tugen community are highly knowledgeable about the plants used in the treatment of these two diseases. Moreover, many of the herbal medicines are available in the marketplace, where they are sold as aqueous solutions or in dried form. The most commonly used plant in the treatment of visceral leishmaniasis is *ngwadere* (*Ajuga remota* Benth.). In its preparation, the whole scrub is soaked overnight in water and the mixture given to the patient to drink. Other plants which are used, although to a lesser extent, are *Tilomwo* (*Ziziphus mucronata*) and *Seketet* (*Myrsine africana*). The widespread reliance on *ngwadere* is due, first, to the plant's proven ability to provide relief, and second, to the uncertain delivery system and high cost of 'modern' medicines. For example, in 1994, it was estimated that the cost of the course of treatment recommended by the World Health Organization, consisting of pentavalent antimonial, was \$273.89 per patient (Kaendi 1994). The indigenous treatment of visceral leishmaniasis is not limited to

herbal medications; surgery is also used. This involves making incisions around the spleen area on the abdomen to let out the 'bad blood' which is believed to be the cause of the enlargement of the spleen and thus the abdomen. In the case of malaria, various plants are used, alone or in combination ([Table 1](#)). The mixture is based on the principle of synergistic activity between the various components of herbal medicines (Bodekar 1994:102).

In the management of malaria, purgation and emesis are interpreted as a sign that the disease is leaving the body and that the healing process has begun. According to the Tugen indigenous diagnoses, esse (malaria) is the result of excess bile in the body, so that the bile has to be expelled before healing can take place. Thus purgation is regarded as the key treatment regimen for malaria. On the basis of this knowledge, different forms of herbal medications are prescribed according to the severity of the illness ([Table 1](#)). Tugen treatment of malaria is based on a number of interlinked elements: beliefs related to causation, the action of effectiveness of 'modern' medicines, and the availability of plant treatments. In the treatment of these two diseases, the Tugen also use Western-based health care facilities and over-the-counter medications (Kaendi 1994). The use of the different forms of treatment is complementary; in some instances, retail drugs are displayed for sale alongside herbal medicines. The fact that these divergent forms of treatment are sold and used either concurrently or alternately, suggests that there is no perceived conflict between the two traditions. Studies in other African communities have reported the popular use of herbal medicines similar to those of the Tugen (Mwenesi et al 1995:1273; Agyepong 1992:135). Among the Miji Kenda, Mwenesi et al. (1995) found that traditional home therapy involved herbal medicines prepared from the 'neem' tree (*Azadiracta indica*), while Abbink (1995:8) reports on the use of *Gardenia ternifolia* in combating malaria in Ethiopia. He also notes the use of other herbal medications, such as *Tamarindus indica* and *Harrisonia abyssinica*; while the Tugen use these in the treatment of malaria, in Ethiopia they are generally used for other diseases.

Conclusion

Tugen indigenous medicine has weathered the test of time, especially in view of the widespread Western forms of treatment. Today, Tugen indigenous medicine exists alongside the Western medical system in a symbiotic complementarity. And as long as the Tugen culture exists as an identifiable cultural entity, this autonomous body of indigenous knowledge for the treatment of disease will remain, because it is both culturally relevant and efficacious. Policy makers cannot ignore this fact. Tugen indigenous medicine should be officially recognized and given the status it deserves.

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Highlights

- The Tugen possess a large body of indigenous knowledge for the management of various illnesses. They believe in both natural and non-natural causes of illness.
- Today Tugen indigenous medicine exists alongside the Western medical system in a

symbiotic complementarity.

- It is because of the general belief in the efficacy of the existing indigenous treatments, and the unavailability or inaccessibility of medicines in Western-based health care facilities, that the use of herbal medicines is widespread among the Tugen.

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Table 1 Indigenous medicines used in the treatment of malaria

Indigenous name	Botanical name	Usage and parts used
Chepking'un	<i>Momordica friesiorum</i>	The tubers are crushed and boiled. The bitter mixture is supposed to induce vomiting, thus ridding the body of the 'bile' which is believed to be the cause of malaria.
Seketet	<i>Myrsine africana</i>	The seeds are dried and then crushed into powder and mixed in water. The mixture is then used as a purgative.
Kibulwa	<i>Gardenia ternifolia</i> subsp. <i>jovis-tonatis</i>	The fruits are dried and mixed in water and then taken orally.
Sok	<i>Warburgia ugandensis</i>	The fruits are soaked in water and then administered orally.
Anon	<i>Manilkara butegi</i>	The bark is dried, crushed and mixed into liquid form.
Muarubaine	<i>Azadirachta indica</i>	The leaves and roots are used. Other parts of the plant are used in the treatment of other illnesses.
Arwa	<i>Tamarindus indica</i> L.	The fruits of this plant are eaten.

Kipchepkwere	Harrisonia abyssinica	The roots of this plant are used.
Kosirich	Gomphocarpus fruticosus	The roots of this plant are used.

Source: Kaendi Munguti 1994